101

# Syllabus

TECHNOLOGY FOR HIGHER EDUCATION

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A 101communications Publication

# Facing the Portal

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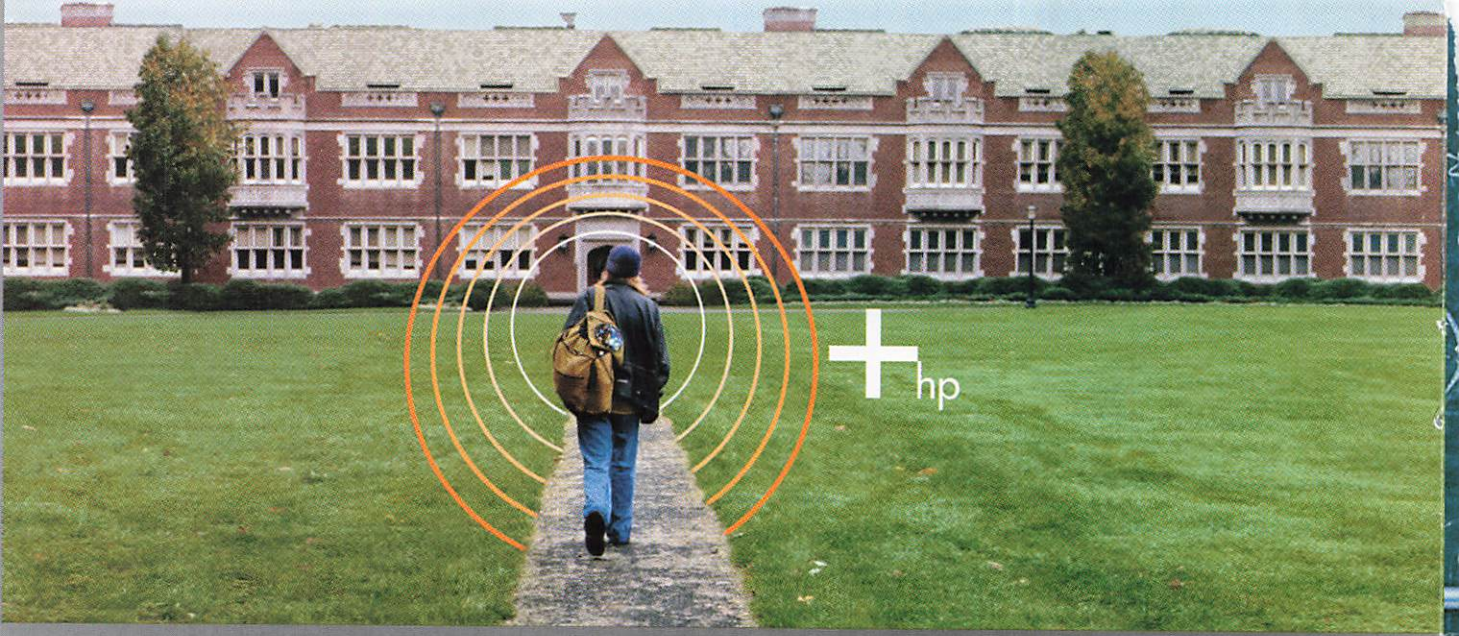
PORTALIZED HOME PAGES • PORTAL DEVELOPMENT • STUDENT ASSESSMENT

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*Cover Illustration:* Ryan Etter

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# EDITOR'S NOTE

Mary Grush, Editor

Ideally, a campus portal provides one secure entry point to integrated resources and services, and is customizable for individual members of multiple constituent groups. With a single sign-on, students, faculty, staff, and others may access the basic functions they need for their daily work—such as e-mail, calendaring, the course management system, financial and payroll records, advising, or the student information system. It makes sense to give users control of their own view of today's complex campus information systems—and one familiar place where they can easily connect with personal data and relevant services.

My UW-Madison is a great example of a successful, feature-rich campus portal. But in an interview on page 8, Annie Stunden, University of Wisconsin-Madison's CIO describes the portal as still an "early portal," and points out that although portal technology itself is somewhat mature, in general the process of portal integration in higher education simply isn't, and that remains to be a challenge. Providing a single point of access to numerous systems, each of which by itself might otherwise offer its own portal, is a nontrivial commitment, and that may be a partial answer to Joe St Sauver's question, "Why Are Portalized University Home Pages Rare?" (page 21). Though St Sauver may be splitting hairs in making a distinction between campus portals offered via a link to a secondary page, rather than on an institution's default home page, he outlines several pieces of the portal integration puzzle that have made campus portal progress less than stunning in the past few years.

Still, enthusiasm remains high for portals. This is not a "flash in the pan" technology that is going away. And many institutions besides UW-Madison have implemented campus portals, or have incorporated portals in their Web sites that have had significant impact on targeted communities. In "Higher_Ed.Biz" (page 26), Paul McCloskey explores a federated portal maintained by the University of Minnesota-Bimidji for the Northern Tier High Tech Corridor, for the purposes of fostering economic growth in the region. And in "Assessment with a New Mindset" (page 31), Aaron Thomason describes how a portal helped support a school's new program goals.

In his Reflections column (page 42), Howard Strauss says that "Enterprise portals have the potential to free users to be much more on their own than ever before possible." That's probably why we'll be seeing more campus portals in the future. A technology that supports customization and helps guide users through a myriad of data and applications has to be a good thing. As Ron Ateshian says about portals in higher education, "You've Come a Long Way Baby…" (page 33). But there's still a long way to go, as institutions face the challenges and opportunities of the campus portal.

Enjoy this issue of *Syllabus*!

Mary Grush

**Letters to the editor** should be addressed to the editor and sent to 101 First Street, #605, Los Altos, CA 94022, or via electronic mail (mgrush@syllabus.com). We reserve the right to edit all submissions. **News and product information** will be considered for publication. Please send all materials to Paul McCloskey. If you are interested in writing for *Syllabus*, please send a brief description of your article idea along with writing samples to the editor at the above address.


Syllabus
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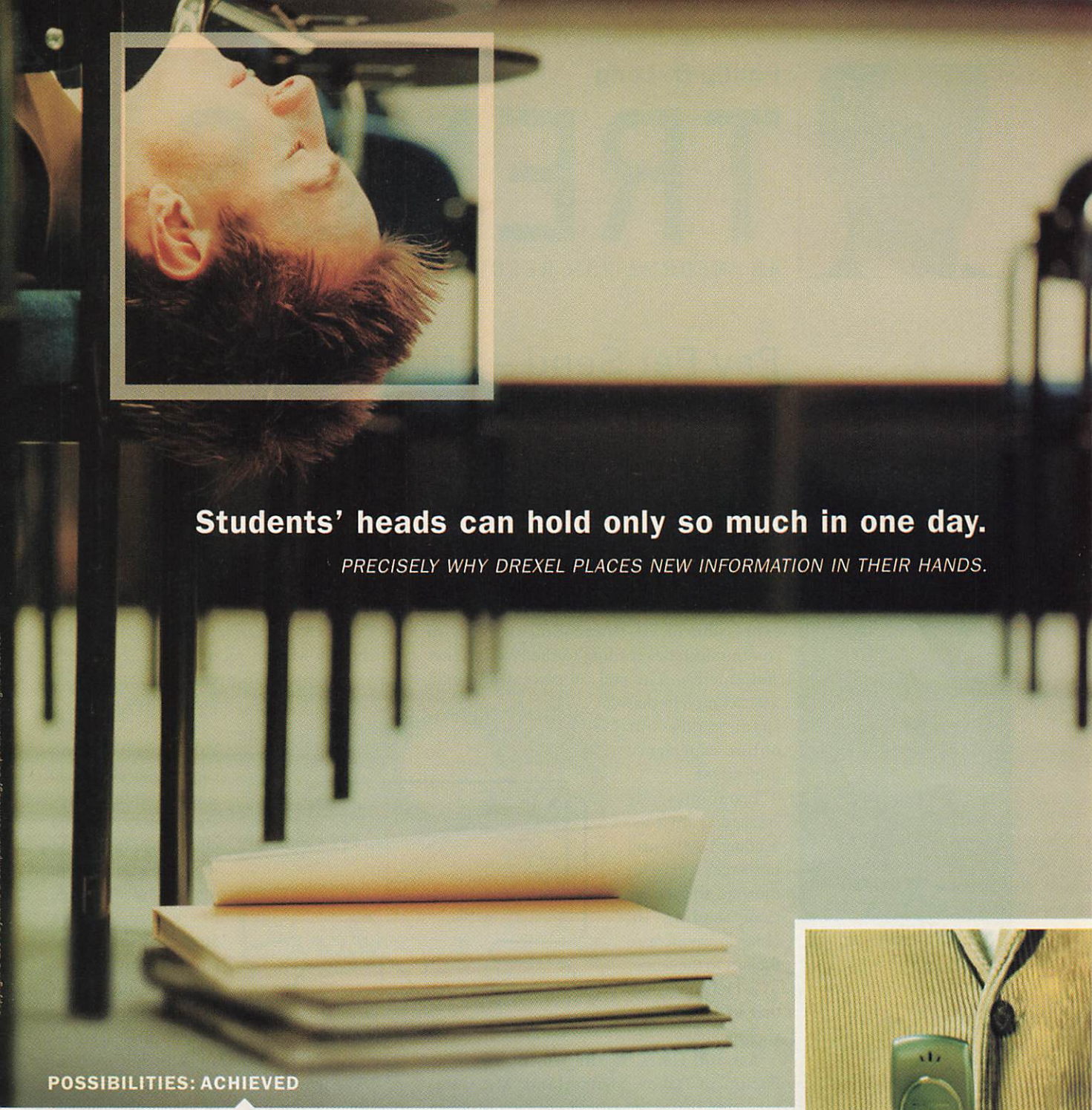

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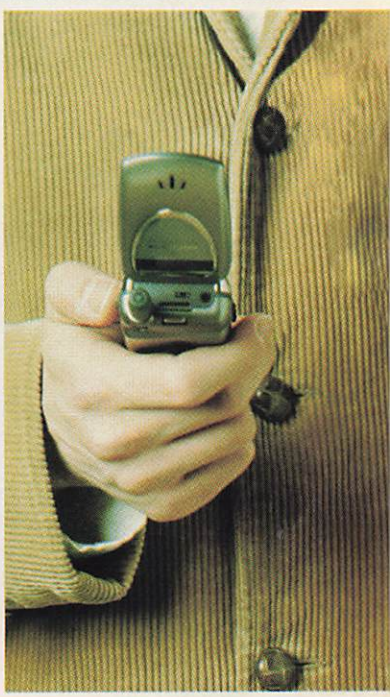

**Phillip D. Long**

# TRENDS

AN INFORMATION RESOURCE OF INTEREST TO EDUCATORS

## Pay Per Send – Friction in the Frictionless World of E-Mail

### BRIEFS

- **The Society for College** and University Planning launches a campus facilities inventory to provide administrators a comprehensive database on U.S. postsecondary facilities.
- **University of Alberta**, the government of **Alberta**, and **Silicon Graphics Inc**. will create tools that would enable colleges and universities to access high-performance and "grid" computing resources.
- **Capella University** will become the online education provider for retail giant Walmart's new My Education Connection program.
- **The American Association of Community Colleges** named a task force to define a strategy for developing homeland security training programs for two-year colleges.

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We continue to suffer from the onslaught of unsolicited e-mail. Heuristic spam filters are getting better. The arms race between mass e-mailers and anti-spammers marches on. Today 56 percent of all e-mail is spam, according to Brightmail. Is our life better by virtue of this expression of First Amendment rights to communicate? According to the Pew Internet and American Life poll, 70 percent of e-mail users complain that spam makes our online experience unpleasant.

Economics is stacked against us. Sending 1,000 e-mail messages costs no more to the sender than sending 10. How do we increase the cost to the sender of e-mail messages that are bombarding your mailbox?

Ask Bill Gates. At the World Economic Forum in Davos, Switzerland, Mr. Gates predicted that spam would not be a problem in two years. The basis of his optimism is electronic postage. A small startup company called Goodmail has patented a form of electronic postage. The goal is to make sending mass e-mailings cost something to the sender, finally add a numerator to the cost/benefit ratio of mass e-mailing.

Goodmail's system requires senders of mass e-mailings to affix an electronic stamp on their messages. ISPs inspect messages flowing through their systems bound for their customers and pass e-mail with Goodmail's e-stamp. The e-mail is passed only after the ISP decrypts the stamp (an encrypted ID number) and sends it back to Goodmail for verification. If verification is received, the message is passed along by the ISP to the end user. If the e-mail doesn't have a valid stamp it's routed to the bit bucket. End users can subscribe to mailing lists from which they wish to receive mail. The Goodmail e-stamp guarantees that the wanted mail arrives.

Large ISPs like Yahoo! are looking carefully at electronic stamp systems. They see them as potential alternatives that shield their subscribers from the unwanted barrage of e-junk. More attractive still is that the revenue generated from the sale of e-stamps would be passed along to the ISP, minus a small surcharge by the e-stamp company. Mass e-mailers pay whether the end user reads the e-mail or not, but e-stamps are franked only if they are correctly decrypted, validated, and the message delivered. The days of freely distributed mass e-mailings may be numbered if this model for regulating e-mail traffic gains ground.

Where's the rub? First, it could work better than expected. Mass e-mailers may well be willing to pay for the privilege of sending their precious spam to you. The end result: large, well-heeled mass e-mailers could dominate the e-mail landscape.

*continued on page 41*

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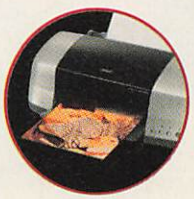

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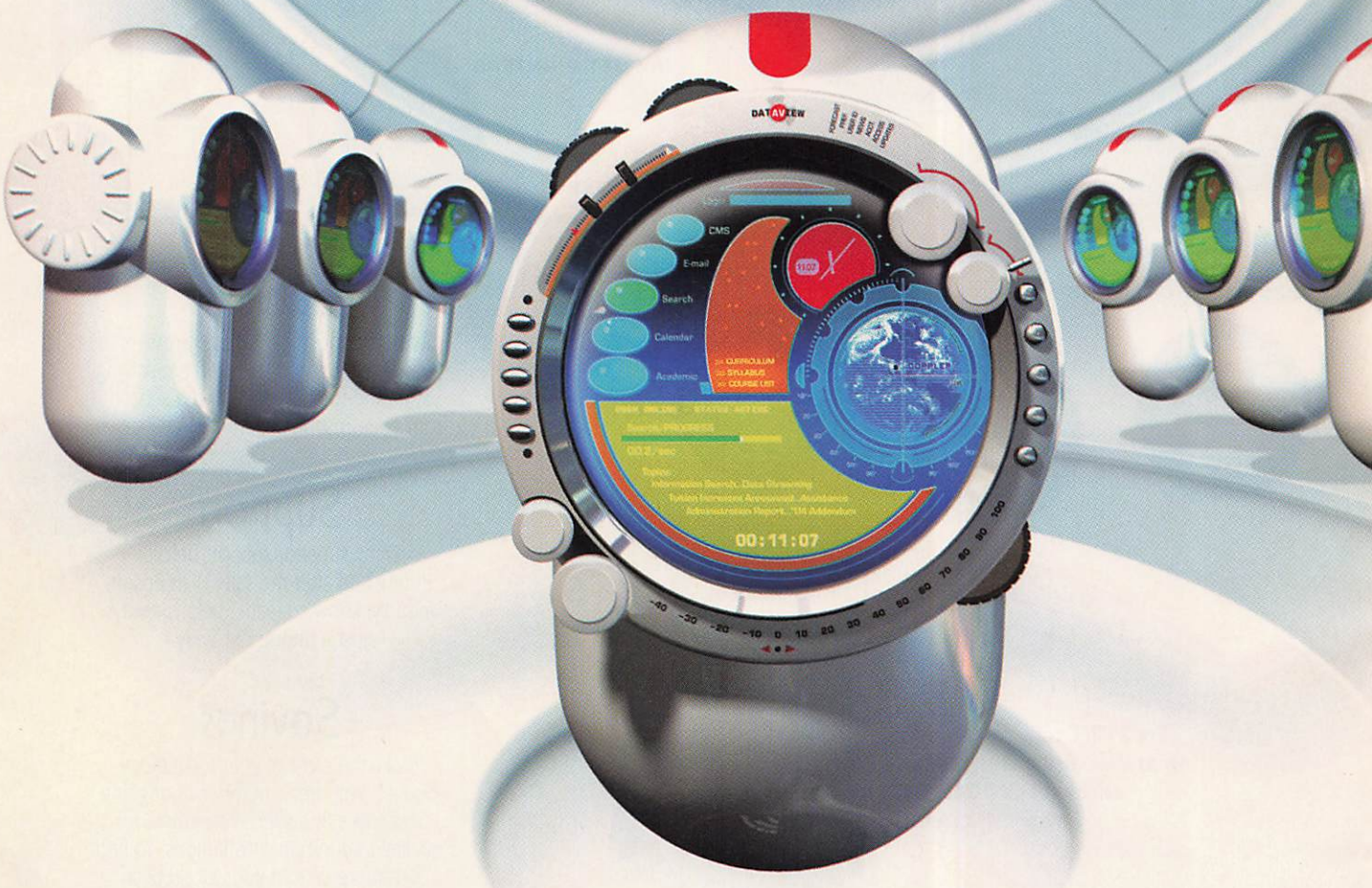
# Facing

## A Conversation with Annie Stunden



# the Portal

## Syllabus interviews University of Wisconsin-Madison's CIO about campus portals

**Syllabus:** When did you first deploy your campus portal, and how has it developed since then?

**Annie Stunden:** UW-Madison first delivered its portal about three years ago, with very little functionality—just one or two capabilities in the beginning. And it was not used very much at that time. We had focused on some class information for the students. They made it clear that it would be much better if they could read their e-mail and get their grades on the portal. So over the past three years we've really built up capability in our portal, My UW-Madison.

**S:** Do you consider it a fully developed portal now?

**AS:** I would say it's still an early portal, but it's getting richer. After we had deployed it, we realized that unless we put some really basic functions into it, it was going to be poorly used. And the big, basic function we wanted to add was e-mail, so that people could log in and get their e-mail on the portal. Calendaring was another key function. We spent a lot of time and energy getting e-mail and calendaring systems up and running and integrated with the portal.

**S:** What were some of your objectives for My UW-Madison?

**AS:** One objective was a single sign on—so you would not have to log on multiple times. And I will tell you, making that work was a challenge. We had to figure out how to get that running in a secure way between our e-mail system, our calendaring system, and so on.

And we've gradually added more and more capability. Most recently, Finance has put up employee salary statements, so you can now look at your payroll history on the portal. This is of great interest for faculty and staff, and I'm not sure anything was very much of a draw for staff before, except that they could get e-mail from any place in the country. We've also added some interactive functions like ordering tickets or computer equipment, and we're trying to build that capability out further.

What we're beginning to put in place is a portal system that supports your daily work. For students, you can check your grades. For staff, you can look into your paycheck. So, it's a way to connect with your personal information. And I think that's the bonus. The highlight of the portal is that it supports your relationship with the university—your *electronic* relationship with the university—without having to remember the address of this or that Web site, or having to log on to several different applications. You log on once to My UW-Madison and you can find the information that supports your life here.

**S:** What are some of the challenges of deploying and maintaining the portal?

**AS:** One of the real challenges with the portal is integrating it with enterprise applications. We've got the Registrar's office using PeopleSoft for all their student processing work; everything that Registrars do to maintain student information. PeopleSoft offers a portal that supports access to that kind of information, for the functional departments, the Registrar's office, the Bursar's office, as a well as for the students. We've got Desire 2 Learn, our course management system on campus, and you can use its portal to get at your class materials if you're a student. And for some other administrative applications, we're bringing up the Lawson payroll system. There's a portal associated with that. Each of those applications has its own associated portal. The challenge on a campus is, do you use specific portals for specific activities, or do you work at integrating the information that people could see in specific portals into a single portal that's more generic?

We continually face that decision because it's easier at the development level to just say, "Sure, we'll use the PeopleSoft portal because PeopleSoft provides it; you've got all that information in their databases." But it's not nearly so easy for the user and it doesn't give them an integrated picture of the information they want. Plus, it doesn't give them everything else about the university. So they would have to go separately to the PeopleSoft portal and then to the Desire 2 Learn portal. We're trying to pull all of that information together. In my mind, that's a big challenge.

Illustrated by Ryan Etter

**S:** Do you consider portal technology mature?
**AS:** Well, sort of, though we've got a way to go to make it more reliable, more robust, easier to use. But, the real question is, is this integration process that we're in the midst of mature? I don't think so. You know, I think that we're doing hard work here in trying to put the picture all together with one single sign on. But it's a challenge. It remains a challenge.

**S:** How would you characterize the problems with the single sign on?
**AS:** Think about this: We're using Sun's mail system, iPlanet mail. And we're using a calendar product now supplied by Oracle. We have the Desire 2 Learn course management system and the PeopleSoft student information system. So we've got those four applications that people want to get information from, integrated—or we're *trying* to integrate them—with our portal. This is a development task—a technical task—as well as a challenge in terms of working with the vendors to be sure that what we accept as a net ID and password is acceptable to that application. That's the first part. Second, we need to be sure that we can pass the ID and password on through, as opposed to having the users directly log on. And then there is the whole business about building something that lets you hang onto the logon information in the portal so that you can then pass it on through to the next application, while at the same time protecting passwords.

### Some Systems and Applications Integrated with the My UW-Madison Portal

- Calendaring (Oracle Calendar)
- Campus events
- Computer purchasing
- Course management system (Desire 2 Learn)
- E-mail (Sun's iPlanet)
- Student advising
- Student information system (PeopleSoft)
- Work records

We had a challenge to make all this happen, but I believe we have solved the problem. So you log on to the portal once and that's it.

**S:** Are there perceived security issues with the single sign on?
**AS:** Everybody worries that there are security issues with single sign on. And certainly there are, but we've addressed them so that we are managing this, we believe, in a very secure manner.

**S:** With the portal, part of the attraction, I suppose, is that the user is able to customize their view.
**AS:** Yes.

**S:** Are there any privacy issues with that? In other words, does the system keep track of data on you?
**AS:** You know, that might be possible, but we're not having any privacy issues with our portal. You build a front page for who you are. Most of the time when people customize their view, they're saying something like, "I want you to show me the weather in Timbuktu or in my home town of Paoli, Pennsylvania; I want to track the campus calendar for sporting events; I always want to be able to look at my classes." So in terms of customizing, it's pretty benign information that you can put on your home page.

**S:** It sounds like you've integrated the e-mail system, calendaring, the CMS, and the student information system. Some of the functions potentially overlap. For example, how do you handle grade input?
**AS:** As a matter of fact, we're struggling with faculty grade input and whether it should come in through a course management connection to the portal or whether it should come in to the student information system connection to the portal. That's the type of issue that you face as you begin to make this capability available. We're integrating as much as we can of information, or parts of applications, that people want to use to manage their campus *electronic* life in the portal.

**S:** I'm wondering what the long-term maintenance issues are, given a portal strategy. For example, if you were to migrate to a different CMS, or maybe a different e-mail system, are those migration issues very much complicated by the portal?
**AS:** Yes. Actually, they are. I'm trying not to say that, but sure, they are. The portal

### Annie Stunden

Annie Stunden began her position as chief information officer and director of the Division of Information Technology (DoIT) at the University of Wisconsin-Madison in February 2000. UW-Madison is a 40,000-student research university with a major commitment to transformational change of the teaching and learning environment through the use of technology. Stunden is leading an organization of about 550 staff members and 250 student staff in this position. From 1996 to 2000, she was director of Academic Technology at Cornell University; and she was director of Academic Technology and Network Services at Northwestern University from 1991-1996. Stunden is active in professional organizations, currently serving as Chair of the Recognition Committee at EDUCAUSE and a member of the Internet2 Network Policy and Planning Advisory Council (NPPAC). She has numerous writing and speaking credits, including a recent article published in the Nov./Dec. 2003 issue of *EDUCAUSE Review*, "The Muscles, Aches, and Pains of Open Source." Beginning this spring, Stunden will write a monthly column for *Syllabus* magazine covering enterprise technologies.

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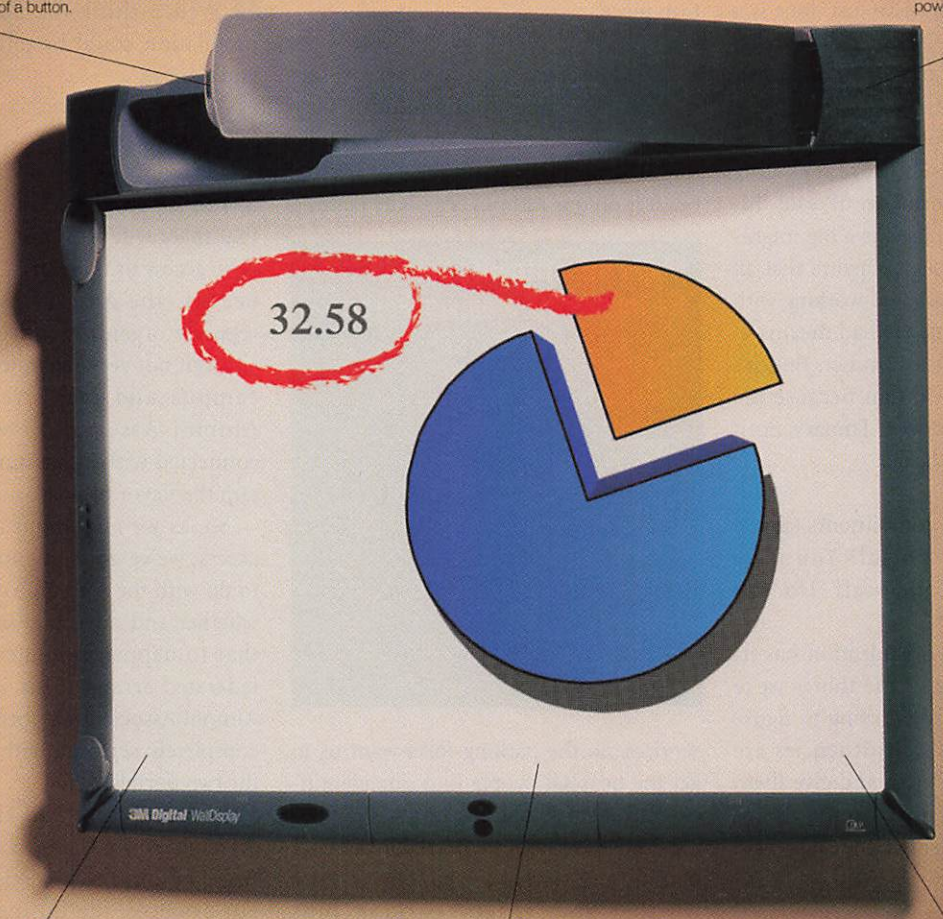


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is another big technology to manage. When you make major changes to other applications that need to be integrated with the portal, you've got work to do; work with the portal. These are not inconsequential adventures.

**S:** And at some point will you be considering a new portal?
**AS:** One of the things we've just done is a portal evaluation. Our current portal software requires a major upgrade this summer. We decided it was time to evaluate whether we are using the right portal architecture. As a result, we're migrating from our current portal, to uPortal this coming year. That in itself is a big migration. And then we have to assure that all of our links are in place and working with the other applications. We had dreams of having it done by this summer. But, it's clear that we can't do that because the decision was just made in January. So it will be sometime in the fall.

**S:** Who are the key constituents served by the university portal? You have students, faculty, and staff. Do you have alumni?
**AS:** No. Our alumni organization has its own portal. But one of the things we're working on very hard is trying to figure out what our other constituencies are and how to identify them and give them access. The next constituency we're working on is [student] applicants. And after that, parents.

**S:** Interesting!
**AS:** That's right. And the reason it's going to be parents is that parents are the folks who pay the bills a lot of the time. They want to see their students' financial records. Some universities are already providing this access, authorized by the students.

**S:** So, there's more role-based access you have to figure out...
**AS:** The message there is that we also have to be able to identify *what* they can and cannot have access to. One of our big projects in the past two years has been developing what we call an identification, authentication, and authorization system (IAA). So we need to know who you are. We need to know that you are who you say you are. And then we need to know what you're authorized to look at. For example, a faculty advisor is not eligible to see all students' records, just the records of the students that they're advising—that's the authorization piece.

**S:** Will your portal expand to serve users outside the campus community?
**AS:** Some. For example, there is a hospital that is not actually part of the university, but it is on our campus. We share parking services. So the parking folks want us to get the hospital people into our identification system so that the hospital can use a portal-based application for parking permits and so that people can find out whether they've got parking bills outstanding. The world gets more and more complex, and we're trying to figure out how to grow this thing, reasonably, rationally, nicely, to support our campus departments, functional departments, and our end users. That's the portal.

**Major Constituents Served by The My UW-Madison Portal**

At present:
- Faculty
- Staff
- Students

Under consideration:
- Applicants
- Parents
- Friends and Donors
- Alumni

**S:** What is a federated portal?
**AS:** Our portal is a federated portal to some extent. As an example, I'm not developing the parking portal application. The parking application is going to be developed by the people in parking, but they're going to develop it in such a way that the My UW-Madison portal can get you to the parking portal, you can work with the parking information and when you are done, end up back in the My UW-Madison portal. You won't have to log in beyond the My UW-Madison logon to do this.

**S:** What other groups outside the university community will you include for access to My UW-Madison?
**AS:** Well, I think the next interesting population could be university friends and donors.

**S:** That is interesting.
**AS:** Or alumni—actually let me go back to our discussion of alumni. I expect that there will be a push to have alumni have access to this portal. It's interesting because the Alumni Association is a separate organization from the university. But not very separate—it shares our campus and many resources. The Alumni Association wants to stay connected with all alumni and to maintain the flavor of that connection.

So, as we talk about alumni having access, we've got some interesting work to do with the Alumni Association about whether and how the Association wants that to happen, whether it could be a federated arrangement, or whether the Alumni Association's portal needs to stay completely separate with links between the two portals.

In fact, we've had those types of discussions elsewhere on campus before. And I'm not sure we're done with them. For example, the Business School and the Law School have unique constituencies. As we work together we have to determine if they want to provide their information within the university's central portal or if they want to interest their own community with something that they believe represents them more directly. People struggle with that question. There's nothing mandatory about putting your information in the portal. There are some things, that because the portal is a central campus resource have to be there, but by and large, if you're the Business School, or the Law School, or the College of Engineering and you want to offer some portal services, you can

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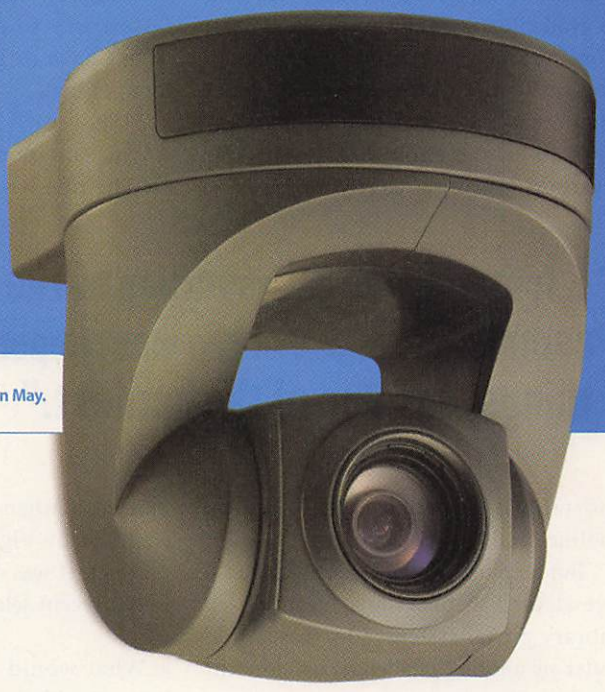

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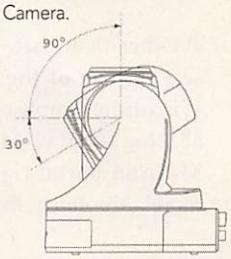


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choose to use My UW-Madison or do something else.

**S:** Are there any potential applications for libraries in your institution's portal?
**AS:** Our library information is available through the portal on our campus; outside of the portal the library catalog is available to all the University of Wisconsin system campuses. So people can log on to the library from wherever they are in the system and get information about the entire holdings of the system—though that's not really portalized, as much as it is just an online catalog.

But absolutely there is potential, and if we elected to provide a feature-rich library portal systemwide, that would offer us another challenge, wouldn't it? And another huge community to try to support. That's interesting to say the least. But it's not necessarily all that difficult, because we're already putting that entire community into our system-wide directory, our IAA hub.

**S:** Other than that, is My UW-Madison serving any of the other University of Wisconsin campuses?
**AS:** No, My UW-Madison is strictly a Madison portal right now. Could it be more? Absolutely. But it's not at this point.

**S:** Are you considering open source for your next portal?
**AS:** Yes, we are moving to JA-SIG uPortal, which is open source-based. Related to that, we are also watching developments with Sakai, the open source learning management system infrastructure. There, the interesting thing is how that total portal environment for learning management will integrate with the federated portal environment that we've built for providing all sorts of resources for the campus. I haven't thought that far ahead yet, but I think we've got some interesting challenges coming up.

A lot of folks have developed their own portal framework. We purchased one for our original portal. It was the fastest way to get up and going. We didn't have to invest in the development of that.

**S:** Which one was it?
**AS:** The one we purchased was called Epicentric when we purchased it. It was acquired by Vignette. It's a very good product. It was one of the two finalists in our recent selection process.

**S:** What would you say are the most important lessons learned from your experience with your portal?
**AS:** We learned that on a campus as big as ours, fostering the collaboration of the campus community is one of the most important things, and one of the hardest. We're a very distributed environment so people can sort of do what they want to do. There's very little top-down direction that dictates what you have to do. Our chancellor was certainly interested in having a portal, or at least something that looked like a portal, on campus. But we needed to champion this actively, to get people willing to put the information that they felt ultimately responsible for into the portal. That was the hardest part. We know how to do the technology. The people work is harder. Folks on campus felt that if they put the information that they were responsible for—think about student records information, for example—in the portal, that they were, in some way, losing control.

An issue still floats out there about how the portal is governed. Student Affairs manages the student information system, Finance manages the financial system, and the Graduate School manages the grants management system. But who manages the portal? Is it that awful technology organization you never trust? —Read: "Why should *they* be calling the shots on this?"

Well, if the central technology organization is not calling the shots, in concert with some kind of campuswide advisory or governance body, where else can you put the responsibility so that the portal does not become one-department centric? And the whole point is to keep the portal a *campus portal*, not a teaching and learning portal, not a student information system portal, not a payroll portal, but a campus portal. This remains a challenge, because distributed governance is hard. Regardless, our campus portal is becoming more and more accepted—we're getting something like 70,000 hits a day.

**S:** Do you have evidence then that this is really going to be the major way people get at their information, or are there back doors that they're using...you know, as if they would say, "I don't think I want to use this. I'm going to go around."
**AS:** I don't think so. It's too actively addressed for me to think that people are bypassing it. And when I talk to some of my colleagues, many of them people who I didn't think would be big users, they say, "Oh, we keep it up all the time...it's such an easy way when I'm using e-mail to find out somebody's e-mail address...it just gives me such easy access to directories."

**S:** How have the students reacted to the portal?
**AS:** We have a couple of students on our Shared Governance Information Technology Committee, and we were discussing whether we should have a Web site for every course connected to the portal. And the students on the committee were saying, "Well, why wouldn't you? You know, that's the way we want to get our information."

**"... fostering the collaboration of the campus community is one of the most important things, and one of the hardest."**

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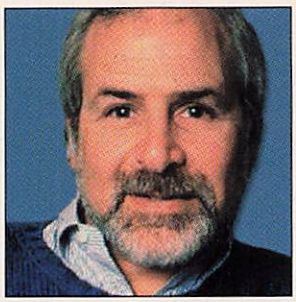
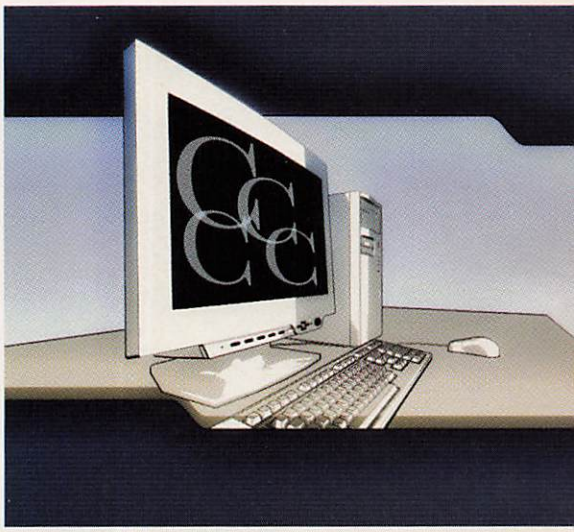


**Kenneth C. Green**

# DIGITAL TWEED



## Sakai and the Four Cs of Open Source

**Course Management Systems (CMS) have become** ubiquitous across American colleges or universities. Are they ready for Open Source?

The 2003 Campus Computing Survey reveals that about one-third of all college courses make some use of a CMS, up from 15 percent in 2000. Equally significant in tracking the rise of CMS: fully four-fifths (82 percent) of the colleges and universities participating in the 2003 Campus Computing Survey report that their institution has established a "single product standard" for the campus CMS—typically Blackboard or WebCT.

CMS emerged in response to an institutional need: how do we "make it easy" for faculty to use the Web in instruction? While CMS may not be the mythical "killer app" of the Internet, CMS products—from Blackboard, eCollege, WebCT and other providers—have certainly become an integral component of campus IT offerings.

In the language of business school profs, CMS looks like a mature market with immature products. From the market side, more than 80 percent of the potential buyers—in this case colleges and universities—have made a commitment to a single product standard. But the products are young, the product category less than a decade old. Consequently, it is not surprising, given the relative youth of the product category and the corporate providers, that campus conversations, chat rooms, and articles in *The Chronicle of Higher Education* document concerns about upgrades software bugs, and, of course, the rising cost of the CMS license.

*Enter The Sakai Project.* On 22 January 2004, four universities—Indiana, Michigan, MIT, and Stanford—announced the Sakai Project (www.sakaiproject.org). Sakai's goal: to develop and distribute a "complete course management system that incorporates the best features of the participants' existing systems and experiences." The project received seed funding by way of a $2.4 million grant from the Mellon Foundation. Additionally, the four founding institutions "will contribute services worth at least an additional $4 million over the next two years."

Eighteen days later, on February 9th, Sakai announced a $300K grant from the Hewlett Foundation to create the Sakai Educational Partner's Program (SEEP). The SEEP "will provide the staff and services to ensure a long-term community for sustaining and evolving Sakai-based software." Eighteen research universities plus one community college district signed on as founding SEEP partners. Each founding partner has made a three year/$30K commitment to Sakai.

My old math says that the two Sakai announcements represent $7.27 million in academic venture capital for the development of an Open Source CMS that is intended to be "better" than current or future commercial products. My market math says that these 23 institutions—four founders and 19 founding partners—intend to change the structure of the campus CMS market.

What drives Sakai? Four factors appear to fuel the Open Source CMS activity—indeed the Open Source *movement*—in higher education.

The first factor is *code.* Implicit in the Sakai announcement is a statement from the founders that "we can do it better"—provide better code, better product, and better services than currently provided by commercial firms.

Second is the *control* factor. The 23 Sakai founder and partner institutions, along with many other colleges and universities, want control over CMS, as well as the accompanying and supplemental applications. In this context, control can be interpreted in two ways: first, *product control* over the development and direction of CMS products and resources, including the increasing important CMS "supplements" such as assessment modules and ePortfolio functionality; and second, *local control* that permits the institutions

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to customize the core product.

*Cash* is the significant third factor in the campus conversation about Open Source. Not surprisingly, the rising cost of CMS licenses is a major concern for many institutions. While an Open Source CMS may not be truly free, the annual $10K campus commitment from the SEEK partners is probably significantly less than their current CMS license fee. In this context, an Open Source CMS reflects a response to the mantra of college presidents in times of financial duress: do more with less, and do it better.

Finally there is *community.* Higher education really does view itself as a community. Colleges and universities share information and collaborate on projects in ways are unimaginable in the corporate sector. Sakai is another example of collaboration as community, collaboration that has been integral to the development and success of the Internet, Internet2, and other technology-based initiatives.

Will Sakai succeed? And what's the appropriate measure of success: 50 or 500 institutions adopting Sakai as their official campus CMS?

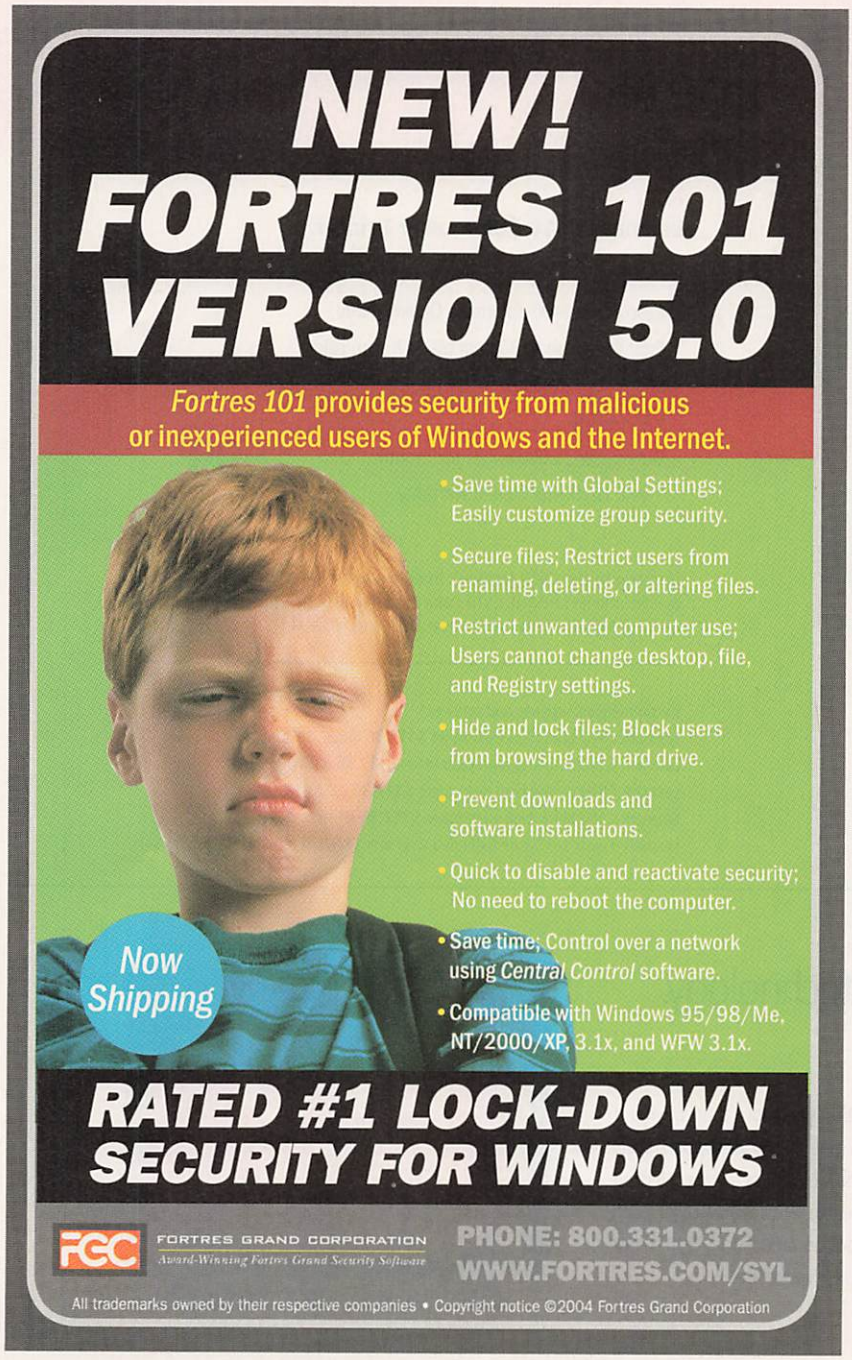
As I indicated in my January *Digital Tweed* column ("The Penguins Are Coming"), I remain an agnostic about Open Source: I don't know if it can make the leap from specific, discrete "back-room" applications (think Apache server software) to complex, applications intended for those of us who do not have computer science degrees.

Moreover, I strongly agree with Annie Stunden, CIO at the University of Wisconsin, who accurately articulates a large part of the agnostic's dilemma. Writing in the November 2003 *EDUCAUSE Review,* Stunden expresses concern that the campus community has yet to develop an effective model to support shared Open Source solutions: "We need to develop creative, collaborative solutions to the dilemma of maintenance and support in our shared software development initiatives." The "code it and they will come" strategy is not an effective dissemination model.

Although I've identified four C factors as drivers for the Sakai and Open Source movement, I wonder if there may be a fifth: *confidence.* Perhaps a key measure of success for if and when Open Source moves from the back room to the desktop is confidence in Open Source—among both IT leaders and IT users.

Good code—as well as user confidence—take time to develop. Consequently, patience, feedback, and user support are key factors that will determine if, when, and how Open Source migrates from back room services to complex user applications.

***Casey Green (cgreen@campuscomputing.net),*** *visiting scholar at The Claremont Graduate University, is the founding director of The Campus Computing Project.*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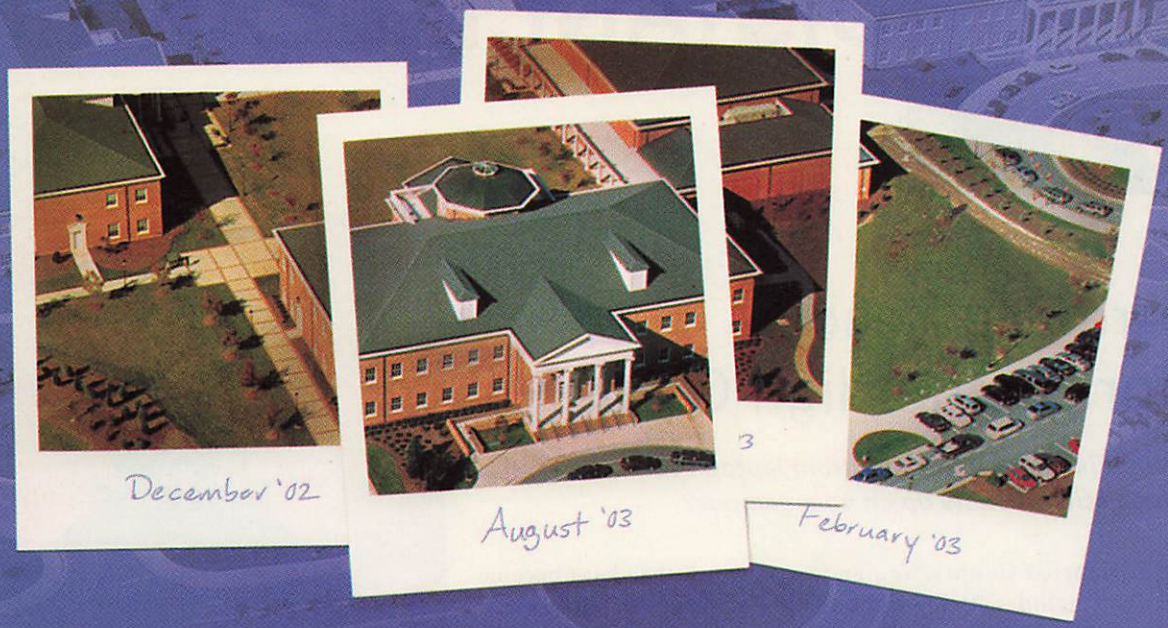


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Sally M. Johnstone

# DISTANCE LEARNING

## Are You Ready for Laptop High Grads?

***What happens when kids from laptop high schools show up on your campus?***

In Henrico County, Va., an area that includes Richmond and its suburbs, all the kids graduating from high school next year will have spent four years in laptop schools. The school system has developed a network to support the largest system of Apple iBooks ever created. The cost per pupil in that county is now lower than the state average. The standardized test scores are going up and the drop out rates going down. This is the kind of success formula that is likely to encourage other school districts around the country to explore laptop campuses.

The 6th through 12th graders in Henrico County are now used to sitting in classrooms with wireless connections and working on whatever *they* think is critical. The teachers are giving their students assignments that do not involve traditional textbooks, but encourage them to explore Web-based resources and create multimedia reports. This is not isolated to just one county in Virginia; the state of Maine has put laptops into the hands of all seventh and eighth graders.

If these kids eventually go to one of the few laptop campuses in the U.S.—e.g., University of North Carolina at Chapel Hill, Davidson College, Berea College, or Mayville State University—they will feel right at home. They will be able to work in the ways to which they have become accustomed. However, if they show up at most state colleges or universities, they will be quite disappointed with the types of instructional settings they face.

How does all this relate to distance learning? Rather profoundly. As the schools embrace full access to online resources, they are importing services and resources. They are also giving kids access to online Advance Placement (AP) courses that are produced and distributed by colleges and corporations. These school districts could never afford to support as many AP students as is possible electronically.

Consequently, as more schools go laptop, the market for eLearning AP courses is likely to grow. In addition, as more of these courses become available, there is likely to be a shift in the quality expectations of the purchasers. Right now the people at the school district or state who are selecting the courses are feeling lucky to find anything that fits their needs. It will not be long before they have some real choices.

As better and better quality eLearning courses are used by pre-college students, the colleges need to be getting ready. We can no longer allow classroom activities like those I saw about three years ago at one of the top rated campuses in the country: a handful of students (presumably the ones who bothered to show up for class) lounging in the back of a classroom while a young instructor (presumably a graduate student) conjugates a list of German verbs on the chalkboard. Since I witnessed this all-to-typical activity, that campus has become a laptop campus. I look forward to the opportunity to return to the campus and roam the halls. Hopefully I will find a transformed teaching environment.

Students are learning where to get the courses they need. They know how to shop online, even if their faculty do not. In addition, legislators are pushing for institutions to be more accountable to the public and more responsive in accepting credit transferred from other institutions. As these two forces come together, higher education institutions may be pushed into offering higher quality technology-enhanced learning opportunities.

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***Sally Johnstone (sjohnstone@wiche.edu)*** *is founding director of the Western Cooperative for Educational Telecommunications (WCET) and serves on advisory groups for state, national, and international organizations to help plan and evaluate eLearning projects.*

# Why Are Portalized University Home Pages Rare?

During Summer 2003, a team at the University of Oregon did a comparative study of university home pages. Among the questions we examined was this one:

"How many universities have 'portalized' their institutional home page?"

At least in the case of our study sample, we were surprised to find *no portalized institutional home pages.*

**By Joe St Sauver, University of Oregon**

In fact, out of the 172 sites studied, only about three dozen schools (about 20 percent) even had a link to a local Web portal from their home page, often from a none-too-prominent location. Given the substantial interest in university portals we've seen in recent years, we found that rather surprising. In retrospect, we probably shouldn't have been surprised.

## The Competition Is Tough

To begin to understand why university portal projects have largely failed to thrive, just think about the commercial competition. This is an important consideration because by definition, a user can have only one default start page. That page could be your school's home page, or it could be some other Web page, but it can't be both. Who are your top competitors? According to comScore [www.comscore.com], as of December 2003 the top three U.S. Internet properties are Yahoo!, Time Warner (AOL/Netscape), and MSN-Microsoft.

Yes, those are all very big, well-funded, professionally run sites, with enormous support staffs. Given their volume, they enjoy tremendous economies of scale, and as advertising-supported sites, they have the cash flow to underwrite their operations.

Those three sites also enjoy some profound structural competitive advantages. For example, many novice Internet users routinely leave their Web browser start page set to the default home page chosen by the browser vendor. In the case of Microsoft IE, with an estimated market share of nearly 95 percent [www.onestat.com], that default home page is www.msn.com, not your university's Web page. Similarly, when AOL distributes millions of CDs, the software on

Illustrated by Stephanie Wunderlich

those disks starts up pointing at AOL's site, not yours.

Yahoo! is a little different. Its draw is partially a function of having the world's most popular topical directory of Web sites, but that, in and of itself, is not enough. As anyone who has visited Yahoo! knows, they've substantially diversified their audience appeal by offering free Web e-mail, instant messaging, discussion groups, online auctions, shopping, news summaries, calendaring, bill paying services, Web hosting and domain registration, and foreign language and geospecific versions of their sites.

So the bottom line is, if you want to compete to be your users' default start page, ask yourself, "Can I be a better portal than Yahoo! or AOL or MSN?" If not, your local portal project will always be secondary or tertiary to a bigger, better, slicker commercial portal site, and will never be your user's default start page. That may be okay, or it may make you want to reconsider the substantial investment a portal represents.

### Portal Logins, Customization, and Tracking

The second major stumbling block a higher education portal faces is the portal login issue. Specifically, in order to be able to tailor a portal's display for a specific user, the portal needs to know who that user is. For virtually all non-trivial cases, that implies creation and use of a username and password for each visitor.

In the case of local faculty, students, and staff, there may already be a username and password currrently in use that might be leveraged for purposes of authentication. For example, perhaps there's an institutional e-mail server that could run a RADIUS daemon, or maybe you have an institutional LDAP server that could do authentication for your portal.

But what about everyone else, such as the tens or even hundreds of thousands of prospective students and casual visitors to your site? Will you try to get all those people to create an account just to use your site?

I don't know about you, but when I run into a Web site that requires me to register for an account in order to get at content, I tend to run away. Part of that resistance is sheer password overload—most everyone already has way too many accounts and usernames and passwords, and we really don't want even one more, thanks.

Like many users, I also don't want to be tracked, not so much because I'm obsessed with privacy as because I am prone to irritation at the poor inferences and aggressive salesmanship associated with that tracking. Heaven forbid that I should buy a book online about bowling as a gift for a relative—as far as many online sites are concerned, that single purchase forever will tag me as someone who should be subjected to a barrage of bowling-related promotional suggestions. Sorry, I'm not a bowler, I'm not interested in bowling paraphernalia, and I don't want to be tracked and harassed as if I were a bowler.

At least, like most users, I don't want to have to login to a site so that site can try to know me and track my online activities in order to "customize

## What's a Portal, Anyway?

A good defining answer to "What's a portal?" has always been elusive, but operationally it is a Web site that:

- Requires users to log in. A login allows users to customize the portal to best reflect their interests—interests that could then be recalled during subsequent logins.
- Is inclusive enough to act as the user's default Web start page, providing access to all the major tools the user wants or needs to work online.
- Is tightly integrated with existing administrative systems such as Banner, and existing teaching and learning systems such as Blackboard or WebCT.

Straight forward, secure Web sites that many have deployed—sites that allow users to perform administrative tasks online such as registering for classes or looking up grades—are generally not considered to be portals, because users will not routinely log in to sites of that sort unless they have a specific administrative task to accomplish, and it is extremely unlikely that anyone would make one of these secure administrative Web sites their default home page.

## Portal Account Maintenance Issues

Given that portals critically rely on usernames and passwords, it's important to consider portal account-related issues such as:

- How can we make sure users provide accurate data when they register?
- How are we going to make sure users don't register for multiple usernames and passwords?
- How will we handle password reset requests?
- When can we delete accounts?
- What acceptable use and privacy policies apply to non-faculty/non-staff/non-student users? For example, what should we do if a user sends SPAM from the portal?

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my experience" and tailor what I'm shown. Sites that try that are being too dang helpful, and for many people it's irritating, somewhat aggressive, and a little bit creepy.

### E-Mail and Group Discussions

Another key area where university portal deployments tend to get derailed is e-mail. Traditional portals such as Yahoo! or Hotmail have always been tightly coupled to e-mail (and possibly other messaging technologies), in part because that insures the user will actually register and then access the portal on a frequent or near-daily basis in order to get their messages.

But consider the university environment: most of us in academia already have an institutional e-mail account, and most of us who are high-volume mail users do not access their mail via a Web e-mail interface—we use POP, IMAP, or perhaps a shell e-mail client like Pine instead. What will happen if you suddenly tell all those users that they will have to use a new portal-based Web e-mail account instead of the e-mail address and interface they prefer?

Yet if you aren't able to capture e-mail as a foundation portal application, you will experience substantial erosion in portal relevance and functionality, or at best you will have yet one more perversely complex external application that will need to be grafted onto the portal in some way or another.

One-to-many communication channels have similar potential displacement and disgruntlement issues. At most schools, the default paradigm will often be use of majordomo-type mailing lists, which work well for both local and non-local participants, and which are mail client agnostic. Now substitute the typical portal's Web-based discussion boards, and watch participation drop, in large measure because we're all too busy to remember to login to some Web discussion site to check to see what (if anything) is getting discussed.

Too busy, sorry.

### Other Issues

A host of other issues may inhibit university portal project success.

*Web site segmentation.* Customization for various audiences may be handled by a comparatively small number of pre-constructed pages, e.g., one for current faculty and staff, one for prospective students, one for current students, another for sports fans, and so on. Such segmentation tends to undercut the need and utility of customizable portals.

In our study, nearly 80 percent of site home pages had deployed some sort of explicit segmentation. If you segment, do you really need a customizable portal?

*Complexity of integration.* By their very nature, academic portals tend to need to be tightly integrated with administrative systems (such as Banner), and teaching and learning systems (such as Blackboard or WebCT), not just via periodic snapshots but by tightly coupled direct programmatic APIs. The integration is not trivial and requires a team of talented local programmers as well as cooperation from all the vendors involved.

*Lack of cooperation, collaboration, and buy-in.* Because of the resources they require and the systems they integrate, portal projects tend to cross and blur traditional organizational boundaries. Is a portal an administrative project? Or is it an academic project? Is it something that should be controlled by the folks who do the institutional home page?

*Security limitations.* Beyond the problem of a single sign-on, those deploying portals face additional questions about security. Many portals require (or perform best) when scripting and cookies are enabled, and portal applications may or may not fully support end-to-end encryption. Can you live with such security limitations? And what about something as mundane as insuring that easy-to-remember and user-friendly portal passwords don't undercut the more stringent password standards normally associated with single sign-on environments?

A long list of other problems and questions adds to the likelihood that institutions will delay or avoid a portalized home page. Is your portal designed to be fully accessible by disabled users? Insuring an accessible portal site can be tricky, but it is required by law. Will a portalized Web site index satisfactorily in Google and other major search engines?

Most universities have been loathe to commercialize their Web sites, but it is tempting to use advertising to help pay for the cost of your portal. Those who try to deploy portals in an academic environment face a daunting task, and it may not be surprising, after all, that the portalization of university home pages has, at least to date, been rare.

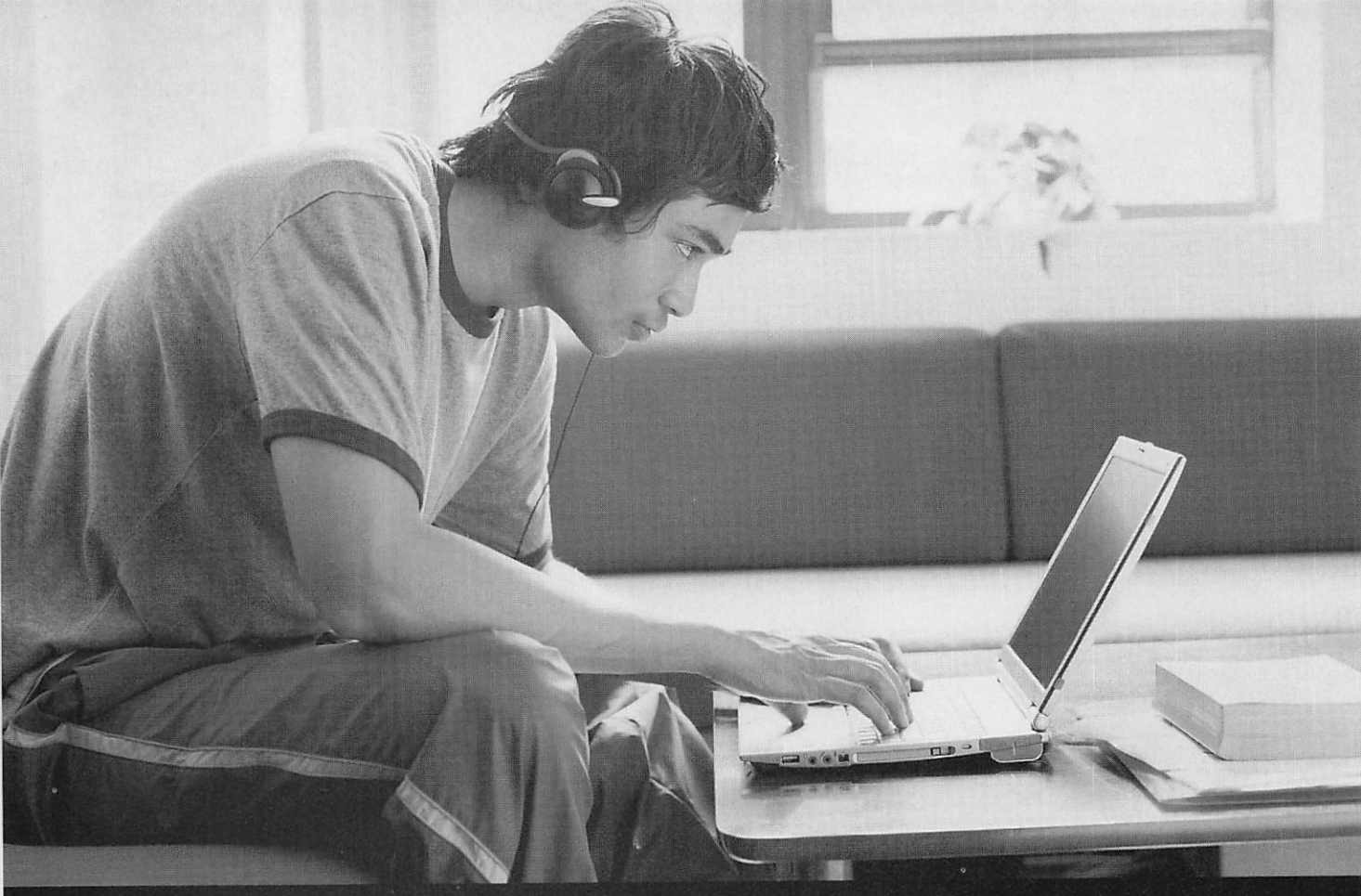
*Joe St Sauver, Ph.D. (Joe@Oregon.UOregon.edu) is director of user services and network applications at the University of Oregon Computing Center.*

## About University of Oregon's Study

The sites selected for inclusion in the study consisted of all AAU member schools plus tier 1 and tier 2 national doctoral universities from the 2002 *US News and World Report* university rankings, augmented with a small number of locally nominated comparator institutions. A full list of sites is available at http://darkwing.uoregon.edu/~joe/2003-web-study/sites.txt

Parts of the study have been released at "Selected Elements of the 2003 University Home Page Study," *University of Oregon Computing* News, Fall 2003 and Winter 2004.

http://cc.uoregon.edu/cnews/fall2003/webstudy.html
http://cc.uoregon.edu/cnews/winter2004/webstudy2.html



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## Economic Development Portal

# Higher_Ed.Biz

*Minnesota's Northern Tier High Technology Corridor is using portal technology to help prime the rural economies of the upper Midwest. In the process, local colleges and universities are bonding to their communities and making markets for new businesses.*

**By Paul McCloskey**

Most public colleges and universities operate under an inefficient social contract. They are supported through grants and tax dollars flowing from businesses and individual tax payers. But with the exception of a few adult education classes here and there, they serve the least productive members of the community.

That's the traditional setup and it ultimately works toward the betterment of the community. Yet it's also a very long and winding return path for those hard-earned tax dollars. Over time, the economic drain is phenomenal.

In some communities, however, university educators and philanthropic foundations are trying to put the Internet to work to better connect service organizations, capital sources, and local business. One of the more interesting examples is the Northern Tier High Tech Corridor, a network of upper Midwest economic development organizations, universities, and nonprofits who are determined to pull together to support rural businesses.

"The Northern Tier provides the collaborative tools necessary to link business and industry with the knowledge resources they need to succeed," says Mike Wellcome, project manager of the Center for Research and Innovation at Bemidji State University.

Bemidji State is currently partnering with eight other campuses in the northwestern part of the state, including colleges in the Minnesota State system, community and technical colleges, Northwest Technical College-Bimidji, Northland Community and Technical College, and Minnesota State University; Morehead, to form a collaborative called the Alliance to work on economic and workforce development issues.

To facilitate collaboration among the entities, the Alliance has launched a portal through which some 20 different communities exchange business leads, Post Request For Proposals, and seek resources and business contacts. The system is built upon good but standard portal technology (see box). The IBM system can be tailored to the user, it has "push and pull" features that can deliver news and information tailored to individual users' interests, and it includes collaborative tools for making discussion forums. It is the collaborative tools—and

uses—raise it above the level of a mere information portal, Wellcome asserts.

"It's really more than a portal," says Wellcome. "We view it as a knowledge management tool." By that he means the platform is organic: a set of collaborative tools that constantly compiles information to be reused by its members.

So when Polaris, a maker of All-Terrain Vehicles, needs some technical support, training, or strategic business planning, they can contact an Alliance member to provide that training. "It opens not only a single institution's resources, but multiple institutions," says Wellcome. For this the Alliance receives no state funding. Instead it is supported in part by grants from the Blanden Charitable Foundation.

Citing another example, Wellcome points to the statewide Small Business Development Center, "a very successful community" on the Northern Tier with a director located in St. Paul and nine regional directors throughout the state. The Center plans to implement the Northern Tier as its primary communications tool, says Wellcome.

The communications and collaborative tools have helped flatten what was once a hierarchical organization by pooling and storing information requests and responses. "Using the collaborative tool, a person in southwestern Minnesota posts a question and 'voila,' anyone can answer it," says Wellcome. "So it flattens the organization, and second, when a northwest Minnesota person has the same question, instead of asking, they can do a quick search and get the answer right there, so it's reusing knowledge."

### A Level Playing Field

"When we first started this project, the idea was to open the doors so that the average Joe or Jane could get into the universities and find things that they need—research for example," says Wellcome. "We quickly realized that most of the information that we wanted to provide on the Web site was already there. So we said, 'well, what's missing?' and through a process identified the collaborative part of interacting between and with higher education and economic development entities. That was missing."

There were certainly a lot of university resources available. The Alliance has 36 higher education institutions, from the University of Minnesota-Duluth on the eastern Minnesota border, all the way to the University of North Dakota in Grand Forks. "So that's a tremendous amount of resources not only of faculty and staff but the student base," says Wellcome.

maintain equity and fairness among the members.

Says Wellcome: "We have specific competency areas we feel we're really good in. For example, Northland's very good at manufacturing processes and procedures. If we get a call from 'Joe's Manufacturing Shop' and they need manufacturing training, we would probably pass that on to Northland or subcontract with Northland to give that training. And then vice versa. If a company wanted Northland to do organizational or strategic or action planning, they are not as suited to do that kind of work as we are."

**"Typically, in higher education we are reactive when we develop curriculum or other new offerings..."**

The Alliance is organized around four teams. One is the "collaborative" team, where discussions are taking place on defining processes of how members do business together and how to handle a client that calls in.

For example, what happens when a client calls into Northland Community & Technical College, East Grand Forks, and they need a specific skill set that Northland does not have? What process does Northland use to pass that contact information on to Bimidji or another sister university or technical college?

It's not an insignificant question, as calls in can translate into business and financial gain for the recipient. At least some protocols for routing leads would

Not every Alliance working team is focused on downstream problems. An "innovations" team has been charged with proactive support for new businesses. "Typically, in higher education we are reactive when we develop curriculum or other new offerings," says Wellcome. "If Joe's puts in a new system, we react by putting together a training program in support of it. But we can provide people 'in the field' and proactively identify what's needed, we can be there when the business is ready." Of course, business development not

*continued on page 39*

## Tools of the Trade

The Northern Tier's technology pedigree is complicated somewhat by recent acquisitions and product repositioning in the computer industry. Currently, the system runs on IBM WebSphere Portal Version 5, which evolved from various IBM portal offerings, including WebSphere Portal Server, WebSphere User Experience, and Lotus's K-Station.

When the Northern Tier purchased K-Station in 2003, it was considered Lotus's knowledge management platform, and it contained two collaborative tools. One was Lotus's SameTime Instant Messaging client or Shared Tea Room, which enables users to do PowerPoint presentations, hold key meetings, and share documents online. The other was Lotus's QuickPlace.

Upon the acquisition of Lotus by IBM, IBM spawned the WebSphere portal and integrated K-Station and its collaborative features into it prior to stopping development of the K-Station platform.

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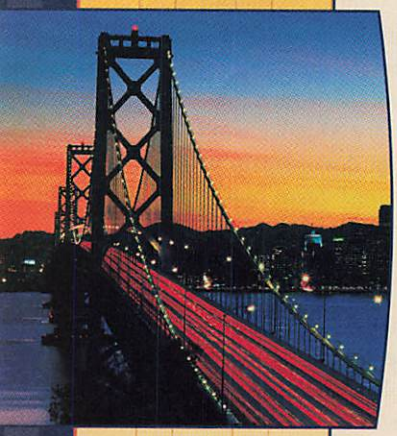

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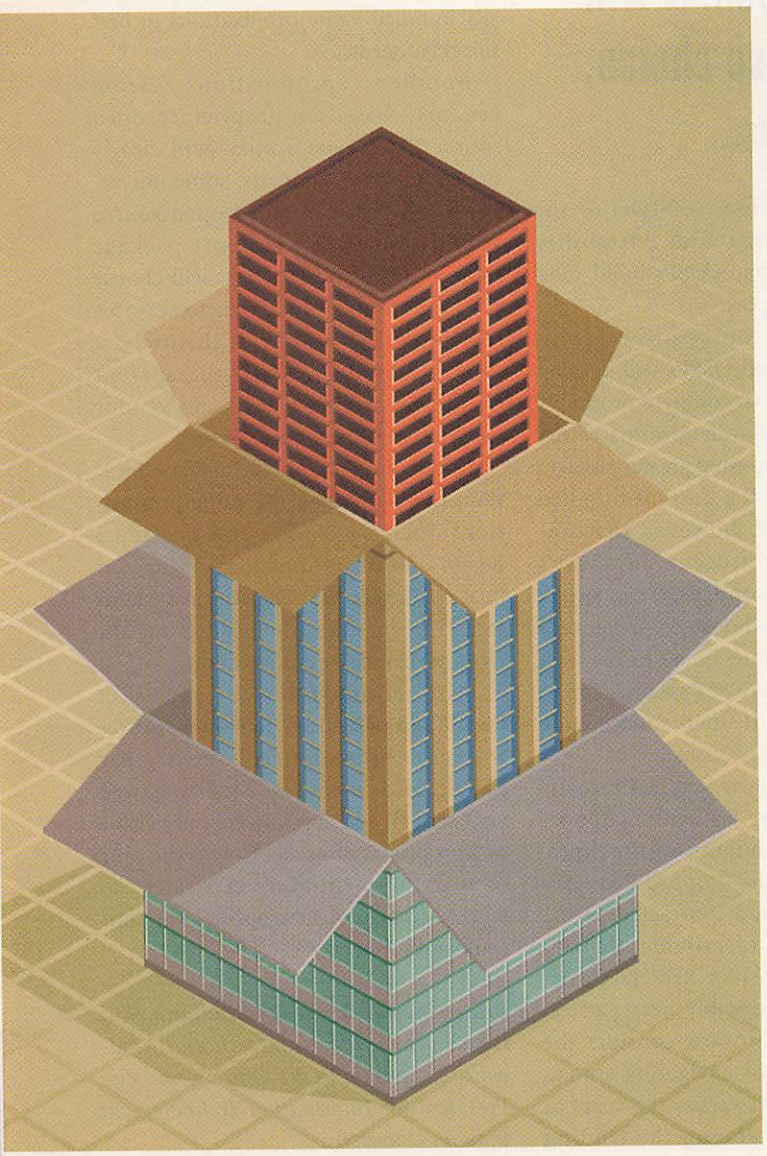
By Brad Wheeler, Indiana University

# The Inevitable Unbundling of Software and Support

Enterprise portals, course management systems, and other large implementations are key areas for which open source software is an option. Here, Brad Wheeler addresses the support issue often brought up in discussions of open source, and gives us reason to believe that in the future it may be less of a point of contention in higher education.



Recent months reflect an important discussion of open source application software for higher education. The success of Linux and Apache at the infrastructure level and the generally collaborative nature of universities prompted Gartner to forecast that higher education would be one of the early places for open source applications, such as course management systems, portals, and ePortfolios. The classic "Build vs. Buy" decision has now been augmented with open source's "Borrow" option—borrowing without an expectation of repayment. Some argue that the lack of commercial support is open source's Achilles heel. Conversely, I assert that the emerging unbundled support model for open source applications is actually a feature, rather than a bug for higher education's future.

Unbundling is inevitable. Traditional models for software have offered a for-fee license to use proprietary intellectual property (IP) bundled with for-fee support provided by the owner of the IP. Unbundling creates two distinct markets for software and support. Thus, the following points merit timely scrutiny:

- Unbundling is a general economic trend that offers greater efficiency.
- Recent open source collaborations have triggered unbundling for higher education.
- Markets segments will choose.

### Economic Trends Favor Unbundling

Unbundling is a general, evolutionary economic trend favoring greater marketplace choice and efficiency. Wecan observe this trend all around us. Few of us buy auto insurance from our car's manufacturer or telephone repairs from the phone company. We plan our travel with à la carte choices for rental cars, hotels, and airfare. We buy our mobile, local, and long-distance phone service from different providers.

Unbundling does not negate the possibility of offering bundles—note the travel industry's recent attempts to rebundle complete trips or the telecom provider's efforts to package all of your phone services—but the options for unbundled choices remain plentiful because they are economically efficient.

It is tempting to dismiss these arguments by asserting that complexity in large application software systems necessitates support from its creator. It is indeed difficult to support a black box without knowledge of its inner workings—which is today's current situation with proprietary software.

Open source, however, changes the situation considerably. The inner workings of the software are visible—and changeable—by anyone who chooses to understand them. For-profit companies can build competencies in understanding, supporting, and extending open source software to offer for-fee services without holding proprietary license over the IP itself.

### Open Source Accelerates Unbundling

But will this unbundling work? Do these "IP-less" companies really exist? The success of uPortal with well over 170 adoptions and multiple Open Source Support Providers (OSSPs) demonstrates that unbundling works. The r-smart group's support for the Open Source Portfolio Initiative's Release 1 is another example. No less than a dozen well-funded open source application projects in the past year ensure a healthy stream of open source products for higher education.

These include Sakai, Fedora, Navigo/AAM, ePortfolio, VUE, LionShare, and others—all written for education, by education. Many of these will provide support markets for OSSPs to achieve needed economies of scale. Projects that use the OKI Open Service Interface Definitions (OSIDs) or the forthcoming Sakai Tool Portability Profile will also help OSSPs build solid economics in support.

Not all open source projects will succeed, and not all OSSPs will develop the competencies to compete profitably in this new era. Some administrators perceive this as imposing greater risks on universities than the current bundled model. I contend, however, that unbundling actually hedges a university's risk as it has more options. It can switch OSSPs, develop in-house competence if OSSP pricing becomes unfair or they fail, or even leverage an OSSP relationship to switch to different open source code should that ever be necessary.

For example, when Red Hat recently moved to increase academic support fees and impose migration timelines, one major university dropped Red Hat's support services and contracted with a different vendor to provide security patches and updates for Red Hat distribution at a considerably better price. For application software, consider the actual lower risk of navigating among unbundled options versus the costs of trying to switch among the leading bundled application providers that pervade the marketplace today.

### Market Segments Will Choose

Finally, assertions of open source versus commercial with only one winner are overly simplistic and distracting. Open source and OSSPs are a complement to, not a wholesale replacement of, traditional bundled software models. Open source creates a continuum of IP and support choices beyond the traditional discrete choices of "buy it with bundled support" or "build it and support it all yourself." Market segments will choose among open source, blended (OSSP bundling an OS product), and traditionally bundled value propositions to best suit their needs.

Bundled propositions from vendors—based on proprietary, open source IP, or even a mix—will clearly prevail in some segments. Some universities will buy a bundled open source application with a support package from an OSSP while others will choose no support or only ala carte services from an OSSP and do it themselves. Others may decide that the current bundle of proprietary IP and vendor support serve their needs as well.

Unbundling is good for higher education. It will sharpen the value propositions, increase choice, and provide a healthy set of options for serving our dual challenges: working within sustainable IT economics while addressing the requisite frontiers of innovation.

Wise administrators already reject the flawed assertion that open source will make software free. Likewise, they should also reject the equally flawed view that IP and support are only viable as a proprietary bundle. Now is the time to align an institution's IT strategy to take advantage of new options for software and support.

**Unbundling is good for higher education. It will sharpen the value propositions, increase choice, and provide a healthy set of options...**

*Brad Wheeler (bwheeler@indiana.edu) is vice president for Research and Academic Computing in the Office of the Vice President for Information Technology at Indiana University.*

# Assessment With A New Mindset

## *Portals in Teacher Education*

**By Aaron Thomason**
**University of Central Arkansas**

Schools of education have a professional responsibility to ensure their programs and graduates produce successful, productive teachers. Today, meeting that responsibility requires using information technologies to both gather information on a teaching candidate's performance, as well as to assess that candidate against unfolding national standards. The College of Education at the University of Central Arkansas has shown that portals can help.

IT systems are becoming a necessity in the assessment field, because in the last few years a shift has occurred in how initial teacher licensing is earned. This in turn has institutions scrambling to revise syllabi or in some cases entire programs. With the Educational Testing Service (ETS) introducing a new three-tiered Praxis series of exams, new teachers will no longer take their final examinations on paper or computer. Praxis III has an ETS-certified examiner coming to each new beginning teacher's classroom and taking a hard look at their teaching effectiveness in action.

### Reflective Decision Makers

The College of Education revamped its teacher training programs to reflect the changes in standards-based and performance-based teacher education. These changes went well beyond minor modifications to syllabi. An entire new mindset was adopted that requires our programs to train candidates to become "reflective decision makers." The ability to self-assess is implied in this way of thinking.

We made several key decisions designed to prepare our teaching candidates and align our programs to national standards. We realized that in order to assess how well we were training new teachers,

we had to start collecting a massive amount of performance data on them and then analyze it to see how we were doing. Indeed, final course grades and overall GPA were going to be small factors in a program that now would require teaching candidates to reflect on their teaching behavior and assess themselves. Surveys and performance summaries would need to be collected at specific transition points in our program so that comparison studies might reveal how candidates were developing.

### System versus Database

Our first contact with candidates occurs when they apply for admission. In the new program, more forms and data than ever were being collected, so we quickly designed an Access database to store it. Even so, the Office of Candidates Services, which handles admission, found themselves doing double duty by collecting and filing paper-based forms while at the same time having to update the database. And since budget cuts and a university hiring freeze meant nobody new could be brought in, we needed a system to automate parts of the admission process.

When we first started examining which technologies would, in fact, let us "do more with less," the latest buzzword coming from Microsoft was .NET. A nice educational discount, plus the ability to upgrade our Access database to Microsoft's enterprise database, SQL Server, led us to quickly adopt .NET as the backbone to our system. This would provide the security we would need if teacher candidates were going to be able to input their admission data directly. Then all we needed was to build an interface that would allow them to do so. With an eager technology staff leading the way, a new .NET Web portal soon went up that automated the admission process.

The key to any Web portal is access management. Once a login is validated, the user is assigned to a role, which varies the access options available to them. Our portal, the Candidate Account Manager (CAM), could "hit" our system database to determine if a user should be given the link to apply for admission, or, if the user had already applied, a link to check his or her admission status. Our new Web portal meant that not only did the admission forms disappear, the number of phone calls and other inquiries diminished as applicants could now check their status online.

Another great feature of the Web portal is that it allows applicants to request faculty recommendations electronically. Two are required to be on file. The previous process meant the form had to travel to the faculty member, be completed, returned via inter-office mail, and then manually entered by the Office of Candidate Services. Now it makes sense to send a request via e-mail with a link to a Web form that collects this information directly from the faculty member. The applicant initiates this request, and the status report will show what recommendations are received in the system.

**Teacher candidates could use the computers at any placement site to document their experiences.**

### Collecting Data at Specific Transitions

The Candidate Account Manager is a role-based Web portal. The various roles assigned are aligned perfectly with the program's developmental benchmarks. As teacher candidates progress in the program, their role changes and so does the data that the CAM portal tries to collect.

In courses throughout our program, a candidate can be placed in local educational settings to gain the experiences necessary to develop as a teacher. Documenting the demographics of every classroom a candidate is placed in is virtually impossible by traditional means, but the CAM portal was designed to allow candidates themselves to input this data. Since every faculty advisor has a read-only interface to the system, field coordinators can verify previous placements and ensure that every candidate receives a range of experiences.

One of the key benefits we noticed was that our Web site was convenient for students regardless of their location. Transfer students could apply online. Teacher candidates could use the computers at any placement site to document their experiences.

### The Next Phase

The next phase in the ongoing development of our CAM portal is to collect survey data from our program completers. The challenge will be including incentives in the CAM portal that will keep our alumni logging in. We have just graduated the first group that has used our portal since the inception of the program. The portal seems to be the perfect mechanism by which we can communicate information to our alumni. Unlike traditional Web pages, we can monitor which of our alumni are using the portal. We also hope to fill it with documentation for helping our beginning teachers pass the Praxis III examinations. As these results are made available to us we can create a complete data profile for determining the success of our programs.

The beginning of this era of standards-based, performance-based teacher education is an ideal time to collect some baseline data about what candidates know and are able to do today. The CAM portal is facilitating that data collection process. Moreover, conducting standards-based performance assessment will provide data for continued improvement of our programs and eventually to ensure the preparation of the teachers we want in today's schools.

*Aaron Thomason (aaront@uca.edu) is a technology specialist in the College of Education at the University of Central Arkansas.*

# You've Come a Long Way Baby!

## eLearning Portals

A review of current portal capabilities from both administrative and academic perspectives. Can eLearning portals in higher education measure up to offerings in the corporate world?

**By Ron Ateshian, SUNY-Farmingdale**

We can all agree, long gone are the days when static information was simply pushed through Internet and intranet networks for those who happen to come upon it by a search engine or by navigating a Web site. Today's savvy users pull and consume more intellectual capital than can be pushed, and no one is savvier and more information-hungry than today's college student. Portals are a means for keeping their educational experience full.

Back in 2000 during the dot-com frenzy, portals were largely content-driven destinations and many popped up to serve the education sector. But they are not merely a way to market a university's academic departments, or provide general information about its faculty, administration, and registration requirements. Much can be learned from the corporate sector, where portals play a more critical role in the market as the user interface to fact-based solutions.

### Today's Portal Advances

Enterprise-level portal solutions within the corporate sector, such as CA CleverPath Portal, are well established. Successful organizations are mastering how information is organized and exploited with corporate dashboards, elaborate reporting tools, business intelligence mining, and predictive analysis capabilities. Combined with this ability to deliver relevant, just-in-time information on demand, and the option to collaborate and access training, portals have already made for a complete performance-enhancing solution in the corporate sector—and now, they are beginning to do so in higher education.

Technical enterprise-level advances revolve around access and security. How do students securely access the internal campus network from a wide area network (WAN) like the Internet? They connect through a virtual private network (VPN) connection. With software they download to their computers, such as the Contivity VPN Client by Nortel, users securely tunnel into the network. Worried about network security? You should be, but single sign on (SSO) solutions such as CA eTrust Single Sign On and CleverPath Advanced Access Control Option can provide seamless integration with the portal. With respect to user compatibility, any portal is system agnostic because the user logs in from a Web browser. This means any student with the proper VPN software and signon credentials can access the portal from any location as long as she has a computer with Internet access.

On the server side, where information and services are distributed from the campus, the portal is relatively easy to administer and provides for a standardized look and feel important to today's colleges and academic departments. Instructors are able to deliver courseware and information

*continued on page 39*

- **The University of Minnesota-Twin Cities** needed a system that would reduce maintenance costs and improve classroom uptime.
- **The Connecticut Distance Learning Consortium** joined forces with the Connecticut Community College System, the Connecticut State University System, and the University of Connecticut to select WebCT as their shared academic enterprise system.
- **Vanderbilt University** addressed its data storage, business intelligence, and budget needs with Linux and Oracle technology.

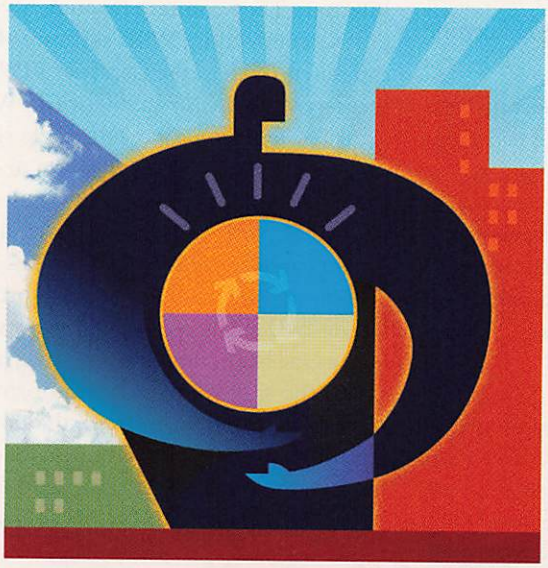
**The University of Minnesota** ▪ By Jim Gregory

# Managing and Securing Classroom Technology Assets

Managing and securing classroom technology assets has become a challenging task for educational institutions across the country. The sheer volume and rising cost of technology, coupled with equipment management requirements, has prompted universities to seek out effective, yet economical ways to administer and secure classroom equipment.

What might seem like minor technical glitches in the classroom can turn into monumental problems over time and have a profound effect on professor and student performance in the classroom. For example, changing a light bulb in your home is a relatively minor task, but when a classroom projector lamp goes out, professor and student learning time is compromised. The time it takes for the professor to notify a technician and have that person change the lamp can take up valuable classroom time.

Also of concern to classroom technology departments is theft of equipment. A variety of theft prevention methods are used, including electronic cable alarms, tampeproof screws, and standalone room theft systems. However, if the appropriate person to respond to alarms is not in the area, these devices are often rendered ineffective. In addition, these types of theft prevention devices do not track security breach patterns.



The University of Minnesota-Twin Cities has struggled with each of these issues relating to managing and securing technology assets. Solving these prolems became ever more important when the university's Office of Classroom Management implemented a $7 million program to bring advanced data projection capability to 300 classrooms in 63 buildings. The challenge: installation of a system that will reduce maintenance costs and improve classroom uptime.

At the University of Minnesota, the implementation of classroom technology on this scale required improved tracking equipment usage and failure data. With new and advanced classroom technology becoming essential, the university needed to track the equipment being used, how often it was used, and what problems occurred. Having an organized reporting structure for this type of usage data would assist the staff in making equipment purchasing decisions and in managing lifecycle equipment maintenance and replacement.

The university considered setting up a server and developing a software program that would monitor classroom equipment and provide data on usage, problems, failure, and theft—all controlled from a central help desk.

Before beginning the arduous task of developing a program in house, the university learned about a software solution from AMX that contained all the needed functionality. The university currently uses AMX's NetLinx control processor to control classroom equipment, monitor equipment maintenance, and send data to system administrators.

It was necessary for the university to interpret the data and create reports to better track how the equipment is used, and to know immediately when equipment problems occur so they can be promptly corrected. The university also needed a functionality that would notify the system administrators

online when a potential equipment theft is in progress.

AMX's MeetingManager has proved extremely useful because it finds problems with classroom audio and video equipment, and notifies system administrators of these issues before they become problems for the instructor. It reduces classroom down time, saving time and resources.

The University of Minnesota-Twin Cities had been paying students to go to each classroom weekly and test the equipment in the room, but it was looking for something more cost-effective and timely. With the new system administrators know immediately when the network has gone offline, or when equipment such as computers, DVD players, and document cameras are malfunctioning. And as for projector lamps, the software keeps track of lamp life so those system administrators are notified before lamps die.

The university originally focused on the need to monitor rooms to keep up with equipment problems, but also was impressed with the software's reporting capabilities. They receive valuable usage data such as how much time various media devices are being used, how often lamps need changing, and which equipment needs attention. This proves useful for technology planning, operations, and management.

Where asset management and security remain a high priority, the system provides greater efficiencies and improved response times. It can detect instantly if a device has been disconnected without authorization and notify security of a possible theft in progress, helping to protect significant investment in high-end presentation electronics and control technology.

Both NetLinx and MeetingManager are cost effective because of the reduction in time and resources, as well as the number of potential thefts being prevented. The university found the technology solutions they deployed so effective that they are making the classroom presentation systems and management technology support available to other institutions. Monitoring, managing, and securing classroom equipment are issues university departments are grappling with, but it's a manageable process. The University of Minnesota-Twin Cities is confident that it has implemented an innovative answer to successfully and cost-effectively save time and resources, while protecting valuable technology assets.

**Monitoring, managing, and securing classroom equipment are issues university departments are grappling with, but it's a manageable process.**

*Jim Gregory (jgregory@umn.edu) is the manager of Classroom Technical Services in the Office of Classroom Management at the University of Minnesota.*

**Connecticut Distance Learning Consortium** ▪ By Ed Klonoski

# Preserving Academic Independence Through Cost-Saving Collaboration

Independence is one of academe's time-honored ideals. Universities encourage faculty to think independently with compelling ideas, however controversial and regardless of any perceived institutional points of view.

Independence can also be expensive when it comes to the technology tools that put teaching and learning online. If every department and school in a university or every college in a university system uses its own learning management infrastructure, it spells trouble for tuition-paying students and taxpayers. Such independence means separate contracts, overhead, and time investments for licensing, training, content development, implementation, and technical support.

Higher education needs a way to protect academic independence, yet eliminate wasteful redundancies in technology spending. Institutions need learning management platforms that can support multiple educational entities in a central installation, giving each department—or school within a university system—a unique look and feel. Learning management platforms should also define sophisticated role-based access to content, administrative processes, tools, and information. And where institutions as deem appropriate, platforms should provide an ability to create, store, tag, reuse, import, export, manage, and share content beyond course boundaries.

These were the ideas that Connecticut educators focused on when the state's three largest public higher education units joined forces with the Connecticut

Distance Learning Consortium.

The Connecticut Community College System, the Connecticut State University System, and the University of Connecticut decided in January 2004 to select WebCT Vista as their shared academic enterprise system. A single shared license for WebCT Vista will support escalating eLearning activity across the three independent systems and their 72,000 students.

The state expects immediate savings of more than $200,000 by sharing a single software license, technology architecture, administration, training programs and, in the future, a repository for learning objects. The repository will contain Web pages, media clips, curricula, and other components. Educators will be able to use these learning objects to create courses without having to develop them from scratch.

This license-sharing agreement will yield significant cost savings through collaboration on course development, technology administration, services sharing, and licensing fees. These are the economies of scale that taxpayers and tuition payers look for and the cutting-edge technology that Connecticut students deserve. Savings will grow if the implementation expands over time, as expected, to include private institutions and other schools in the state.

WebCT Vista will enable each institution within the three units to develop a unique online identity. Yet, students moving through several institutions—for example, a community college graduate enrolling at a university—will experience a familiar basic system as they move from school to school, eliminating the need for retraining. Students will have online access to course materials, assignments and assessments, and they can to use tools such as e-mail, chat, and forums. The system allows teachers to track the number of times students post discussion items, determine whether assigned readings have been done, and communicate with students between class meetings.

WebCT Vista will now support eLearning for the three Connecticut higher education units on the same platform and enable the institutions to integrate their student information systems. Integration allows student information systems to automatically exchange registration information and grades with WebCT Vista, eliminating weeks of manual data exchange. WebCT Vista's design makes integrating student data a relatively straightforward matter. Its multi-tier architecture is 100 percent J2EE compliant, leveraging the BEA WebLogic Enterprise Server at the application layer and the Oracle 9i Database.

WebCT Vista will also enable every school to maintain its own branding identity and autonomous control of teaching and learning. In addition, WebCT Vista offers collaborative options for creating, storing, sharing, and managing content, as well as for sophisticated role-based access to content, tools, and student learning data.

Very large eLearning undertakings like Connecticut's give both students and taxpayers the opportunity to experience the full benefits of enterprise-scale eLearning. Having joined forces on their own volition, Connecticut's three units of public higher education will collaborate where it makes sense while making sure to preserve full academic independence and control across systems, schools, and departments.

The benefits are imminent. The schools will deploy pilots this fall and launch in 2005.

*Ed Klonoski (eklonoski@ctdlc.org) is executive director of the Connecticut Distance Learning Consortium (CTDLC).*

**Vanderbilt University** ▪ By Tim Getsay

# Building a Consolidated Data Center

A research institution with 30,000 students, 10,000 employees, a medical center and 10 schools, Vanderbilt University generates and manages massive amounts of data. When our data storage needs expanded in the late 1990s at a rate of 1,000 percent annually, the university's IT team quickly realized it must take definitive action.

The university was beginning to face the cost containment and technology management issues associated with maintaining several decentralized databases spanning university and medical center operations. While most universities that run teaching hospitals maintain separate IT systems, Vanderbilt found economy and efficiency in sharing systems while functioning as one organization across academic and clinical programs. To maintain our ability to meet the university's IT needs, improve access, and lower costs, the IT team determined it must consolidate Vanderbilt's vital data and storage infrastructure.

Integration was also a priority. Our legacy systems were unable to transform and organize data into the business intelligence the university needed. For example, Vanderbilt's management could not effectively analyze and manage the costs of services provided by the university's hospital, which accounted for 70 percent of the medical center's expenses. Without the means to make data available through Web browsers, Vanderbilt's users also lacked easy access to vital information.

### Deployment in the Next Five Years

Vanderbilt University addressed its data storage, business intelligence, and budget needs with Linux and Oracle technology. The implementation, launched in 2003, consists of a three-node data warehouse built on Oracle Real Application Clusters on Red Hat Linux teamed with Oracle Application Server. We use one three-server cluster for the production data warehouse and a two-node cluster for testing. If any server in a cluster should fail, the remaining servers continue to operate seamlessly, ensuring high availability.

Vanderbilt projects that the implementation will yield a savings of 185 percent during the next five years, taking into account the performance and availability of the new systems, and the efficiency gained in managing a single vendor's system.

The new data warehouse system will eventually serve nearly all decision support needs for the university and its medical center. Currently, an elaborate labor-tracking application provides labor decision support management. System users can now easily extract and format vital data into reports for informed decision-making. Additional warehouse data includes alumni and fund-raising records, financial information, and academic and student records.

### Modeled for Success

In 2002, the IT team created a five-year cost model and demonstrated, based on a five-year technology history, that trying to limit costs by buying incrementally would cause huge spikes in capital investments every few years. We would also lose productivity in trying to catch up. This reasoning resonated with senior administrators and won support for the project.

We chose the Linux operating system to reap the benefits of its low costs and scalability. The team determined that we could utilize three Linux servers for the price of one UNIX server. We also realized that achieving the required performance and availability from the university's existing UNIX platform would be significantly more expensive than it would be in the Linux environment.

Vanderbilt also chose Oracle because the university's studies proved the technology could provide savings up front in hardware costs and deliver additional economies over time.

### New Application Server Improves Scalability, Simplifies Management

The need for higher availability, clustering functionality, and scalability drove Vanderbilt to select Oracle Application Server to replace our existing BEA WebLogic software. We found that Oracle offered greater scalability and simpler management capabilities. Capacity challenges, for example, are now addressed by simply adding a server to the environment and making minor configuration changes. Now, we can bring a server online in just a few hours with minimal system management burden.

The school's new application infrastructure will have approximately 30,000 users, including students, faculty, and staff. We expect users to experience performance increases of up to 50 percent from using features such as Web caching.

### The One-Enterprise Approach

While we considered many vendors for our data warehouse initiative, few shared Vanderbilt's vision of a consolidated data center for university and medical center operations. The majority attempted to sell separately to the university and medical center. This represented a fundamental IT growth strategy stumbling block until working with Oracle, which took the time to recognize that Vanderbilt operates as one enterprise.

The university anticipates building on the benefits of a Linux-based environment by extending its power across all remaining databases. With the university's data storage and processing rapidly expanding, we expect to add 20 processors a year—now a simple and iterative exercise.

Vanderbilt launched its Linux and consolidated database initiative to contain IT costs as systems scale and consolidate data for improved and secure access. Careful planning and analysis has built a solid foundation for future growth and allowed the university to maintain a single IT infrastructure across the academic and healthcare organizations.

**Careful planning and analysis has built a solid foundation for future growth...**

*Tim Getsay (tim.getsay@vanderbilt.edu) is assistant vice chancellor of Management Information Systems at Vanderbilt University.*

FEATURED PRODUCT ■ JENZABAR PORTAL SOLUTIONS

# Jenzabar Internet Campus Portal

In a world of sudden shifts but long timelines, Jenzabar offers college and universities an Internet-based administrative foundation as well as a range of options for balancing IT resources on campus. That is often the type of approach best suited for the small and medium-sized schools that the Cambridge, Mass.-based company has attracted as a core market.

Jenzabar's portal solution—the Jenzabar Internet Campus Solution (JICS)—offers communications, Web services, community building, and course management systems via a single platform. At the same time, administrators can choose among various plug-ins to support specific campus constituents. The approach is a way schools can move toward the Internet as a campus platform but adapt to the times.

The first distinguishing feature of the system is single sign-on, which gives users unified access to mail and other campus information resources, as well as external mail accounts. The system also offers benefits in reverse: administrators can customize JICS to push messages, banners, and resource links to specific users. Access to utilities for making individual homepages can also be set-up for users—faculty as well as students—to customize their portal appearance.

## Web Services

JICS sets up the campus portal as a backbone for using Web services technology to integrate applications throughout campus via a system of plug-ins. Jenzabar calls these Customer Relationship Modules (CRM), collections of applications based around individual campus user groups, (i.e., student, faculty, staff, and applicant).

Although custom CRMs can be developed for specialized administrative and staff applications, JICS offers several standard plug-ins or "portlets."

CRMS provide data consolidation and mining and the ability to capture constituent information at the point of contact. The CRMs also draw on a single database so admissions, financial aid, and academic records are treated as a single entity. As a result, access to complete student profiles can be provided without having to move from system to system.

## Current Modules

■ CRM Admissions Officer consolidates admissions information so that candidate profiles, including contacts, folder items, application status, and family data, can be accessed via the Web. Access to institutional data, such as degree programs, catalogues, and financial aid data, can also be made instantly available for presentations to prospects and their families.

■ The CRM Candidate portlet provides areas for prospective students to view their admissions folder, status, and places for updating information. The plug-in offers chats, forums, and targeted messages that let candidates connect with the institution.

■ CRM Events Management provides event planning features before, during, and after an event. The system allows control of Internet registration, event housing, meals, activities, and travel arrangements as well as financial and post-event reports.

## Academic Solution

The CRM Student module gives student the ability to review their personal data, schedule of classes, grades, historical course work, and graduation progress. Students can view their personal profile data including academic holds, search for available course sections, and register for courses online while managing prerequisites and checking for time conflicts.

Like other portal providers, Jenzabar provides a solution for integration with the academic side of campus. It does this via a Learning Management System (LMS) module populates the student and faculty JICS accounts with courses, schedules, descriptions, class lists, and pre-populated grade books.

This Web-based system grants access to course documents, announcements, Web links, syllabi, threaded discussions, and real-time chat.

Faculty can update grades, assign online quizzes, track attendance, and create and monitor course groups. Moreover, the Jenzabar Application Program Interface (API) makes course creation and population automatic, so faculty can focus on the pedagogy and content.

## Campus Community

Jenzabar calls the third leg of its portal offering "community" tools, which help connect academic and administrative applications with specific user groups. Utilities for community building include a "Campus Groups" utility that allow users to define themselves as members of a specific group, i.e., ski club or theatre company. The tools provide home page, document sharing, calendaring, chat, discussion forums and communications features for each group, as well as classified ad bulletin boards and secure data integration with back-end campus databases.

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only means contracts for single businesses, it can raise a community's overall economic watermark. To support that goal, the state of Minnesota has begun an initiative called JOBZ, for Job Opportunity Building Zone, whereby businesses earn significant tax credits by re-locating or investing in designated localities. Once the investment decision as been made, it will spark an economic chain reaction.

"What is just as important as those taxes is, if you're going to start a business, you're also going to need infrastructure support, logistics, telephone, power, sewage, water...what the Alliance provides and what the higher education system in Minnesota provides is the ability to train those new employees once they're hired or even before they're hired."

### Measuring Success

Because the Alliance is relatively young, it is difficult to measure how successful it has been helping the economies of Northern Tier. What is known is that that about 20 distinct groups are "thriving" on the system, and about 1,200 individual users have registered. Typically, they go into their private area, conduct their business and leave, says Wellcome, or they will keep instant chat on for "easy access to their colleagues and partners."

The system is particularly suited to small rural service providers and technology developers who have grown up in the Internet environment, and who lack the marketing infrastructure available to businesses in the denser market geographies of Minneapolis/St. Paul. One firm, started by three Bimidji State graduate students who graduated four years ago, provides high-end CAD design prototype work for clients nationwide. "They stay in the region and they use the [Internet tools]. That's how they can stay in business," says Wellcome.

"The collaborative tools on the tier are new and we are facing exactly the same obstacles as e-mail did half a dozen years ago. You've got people that absolutely do not want to use technology. You've got the people who want to use technology. You've got the people that are afraid to use it; and then you've got the people who just plain ignore it. But ultimately, they will all adopt the tools."

Wellcome views the Alliance, the Corridor, and the collaborative tools that tie them together not as a business incubator but rather as "a business accelerator. You may or may not find financial resources on the Northern Tier," he said.

"It all depends on who you link up with and who you network with. But what you will find is intellectual capital. You will find the educational resources. You will find knowledge tools that make the knowledge economy possible. Therein lies the difference."

And as more people get involved, the more advantageous it will become to its members. Says Welcomme: "I think it was Metcalfe's law that the power on the network increases exponentially with the number of workstations. This works the same way. If you have 10 people communicating and collaborating, that's good. But if you have a 100 that's better. And if you have 10,000, that's fantastic."

## eLearning Portals

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specific to any curriculum or class through easy-to-update 'channels' and 'portlets,' both of which organize information specified by its respective owner and are updated only by those with the appropriate credentials. If designed and built correctly, solutions such as Macromedia Breeze, Flash, and Authorware can deliver easy-to-build and updatable course content. While the portal provides centralized access, an ideal model includes a learning management system (LMS). In short, an LMS tracks and coordinates distribution of courseware and student progress. An LMS can provide augmented scheduling, login, and attendance tracking that can include time on task and record test scores. Robust LMS solutions can customize curricula or courses based on valid learning objectives, pretests, and posttests.

On the client side, customizable interfaces allow students and instructors alike to organize subject-based portlets and set up class-specific workplaces that provide access to homework, templates, and relevant information sources. Portlets for e-mail clients, scheduled calendars with assignments automatically populated by the instructor, dictionaries, encyclopedia, and anything else one might decide to display from the Web can simply be clicked and dragged to a workplace.

### Instructional Options

At a synchronous level, meaning a live instructor is present, portals are the initial interface to applications delivered by solutions such as Macromedia, PlaceWare, and InterWise. Like corporate trainees, college and university students can attend online classes or seminars. They can interact with a live instructor, guest speaker, and each other, through slideshows, audio, video, instant messaging, and real-time polling that allows the student to provide feedback. Collaborative options allow for whiteboards along with demonstrations through application sharing. Web instructor-led learning solutions can automate the attendance process and even allow for the administration of exams in multiple choice, true/false, fill-in-the blank, and essays—whether timed or not—submitted on demand or at the pace of the student.

Portals are filled with content, and in academia some are just beginning to enhance instruction through learning management systems, asynchronous distance learning and online classrooms.

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Second, there are many mass mailers who are not spammers, strictly speaking. Faculty and students who run their own listservs are doing mass mailings to their subscribers. Some of these lists are large. Either these individuals will be required to pay for e-stamps to send their digests to their subscribers, or some mechanism to exclude certain classes of mass e-mailers will have to be devised. Alternately, a technological solution must be devised to identify different categories of mass e-mailers. This is a nontrivial problem.

A technique of many spammers is to spoof e-mail addresses for the return-to field, putting in legitimate addresses in their place. Preventing spammers from doing this lets users gain confidence that an e-mail coming from AOL, for example, is really from that ISP. The example is not randomly chosen.

AOL is indeed looking at a new Request for Comments (RFC) called the "Sender Permitted From" developed by the Internet Research Task Force (IRTF). This implements the opposite of the MX records used by domain name servers to identify the machines that receive mail for the domain. These "reverse MX" records tell the world which machines send mail from the domain.

So what happens? A spammer sends you mail and forges Hotmail as the return address. You check Hotmail for an Sender Permitted Form (SPF) record and on finding it you follow the instructions provided there to find out if the IP address of the sender really belongs to Hotmail. You execute the command provided in the SPF record to look up the e-mail addresses of Hotmail users and check the hostname to see if it is hotmail.com— if it is, it's legit, if not it's a forgery.

Like most changes in basic services such as e-mail, the result of pursuing any of these strategies will require changes in practice as well as procedures. SPF, for example, causes e-mail forwarding to break. Why? Forwarding e-mail preserves the original sender of the message in the mail header. SPF sees the mail with the original sender coming from a different address (the forwarding person's account) and blocks it. The fix for this is simple: instead of forwarding, you re-mail the message. The fix for other circumstances may not be.

The most promising solution to curtailing spam: increase the cost of sending mass e-mails. As in physics, without friction objects in motion tend to remain in motion.

If these anti-spam technologies apply some friction to the distribution of spam, mass e-mailing may begin to slow down. Mr. Gates may be on to something!

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## REFERENCES

**Brightmail**
www.brightmail.com/pressreleases/121803_spam_2003.html

**Goodmail**
www.goodmail.com

**Research and discussion on the economics of e-mail**
www.goodmail.com/economics.html

**Internet Research Task Force**
www.irtf.org/

**SPF – Sender Permitted From**
http://spf.pobox.com/

**SPF Testing – Slashdot, January 25th, 2004, AOL Tests Sender Permitted From / E-mail Caller ID**
http://yro.slashdot.org/yro/04/01/26/0043227.shtml?tid=111&tid=126

**Reflections,** *continued from page 42*

colors, and so forth as they always have? Does it really improve productivity to have users choose a *raspberry kiwi* color scheme, as they can in my.lycos ?

Amazon.com under "Your Account" lets you correct your birth date and address. Can your users do that? My.excite gives you 14 themes and 22 color schemes, and lets you personalize the content and layout, and add custom links. Canon's current ads stress customization. "The Canon imageRUNNER is flexible and can be customized to address your business requirements." Some video games allow you to be part of them.

Henry Ford offered his model T in "any colour you like as long as it's black." When cars were in their infancy that was fine, but as cars and car users became more sophisticated, car buyers demanded more features and more ways to personalize their cars. The concept 2005 Ford Mustang has an instrument panel with a user-configurable choice of 125 colors. Most paint suppliers offer computerized paint matching services. Bring in any object and they'll match its color with one of a zillion colors they create on the spot. People are happier and work better when they're in control.

You want the most choice when you buy a car, decorate a house, or arrange *your* computer desktop. So do your users. Comcast advertises their video on demand offering with the slogan, "TV has a new schedule...Yours!" You'd think giving users over 150 professionally programmed channels would satisfy them. But viewers are asking for video on demand, the ability to switch cameras during sporting events, and more control over their entire viewing experience. You've done a great job making your users ready for this next step. Let them go with your best wishes for their wonderful future.

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Howard Strauss

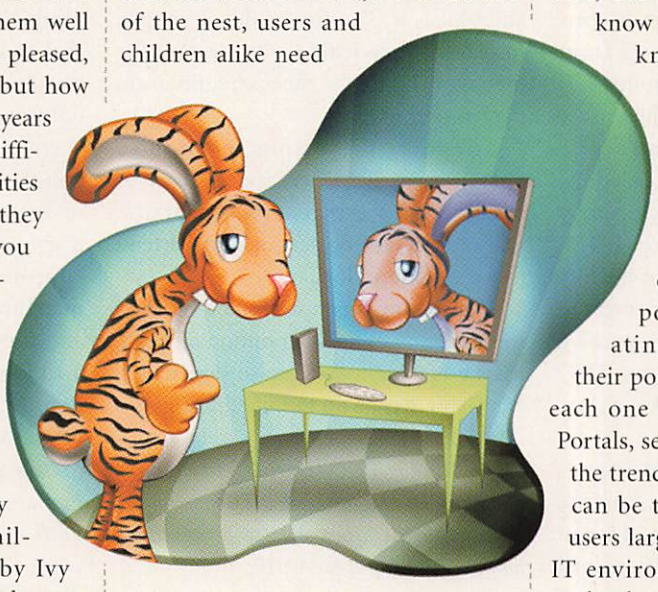
# REFLECTIONS

ANOTHER LOOK AT EDUCATION TECHNOLOGY

## Give This Article Whatever Title You'd Prefer

Leaving the nest is almost always more traumatic for parents than children. After about two decades of worrying every time your children stay out late, dye their hair blue, or drive with wild inappropriate friends, they are off on their own, free to choose their own fate in their own way. You know you taught them well and you should be okay, even pleased, to have them on their own, but how can someone just a few short years out of diapers deal with the difficult and sometimes nasty realities of the world? On their own they might buy an SUV—which you tried to teach them is proletarian, prone to roll-overs, and detrimental to the environment. With your years of experience you could get your children the best price on an *appropriate* vehicle, ensure that they provide you with grand children that all get accepted by Ivy League universities, and get them to invest for a happy retirement in the golf community where you plan to spend *your* golden years.

IT departments have traditionally fostered a parent-child relationship with their users. At one time, when computers were large, expensive central resources, which could only be understood and managed by specialized gurus, that was an appropriate relationship. You never saw your users grow up because they have always been grown up. But computers have changed. They have been out of diapers for some time now, and your users are ready to leave your IT nest and have a relationship with them with much less IT involvement, as uneasy as that makes you feel. Users will still come to you for help, just as your adult children may still come to you for money and even occasional advice, but once out of the nest, users and children alike need your support, not your control. IT will change from being less the CEO of their users to being more a consultant to them.



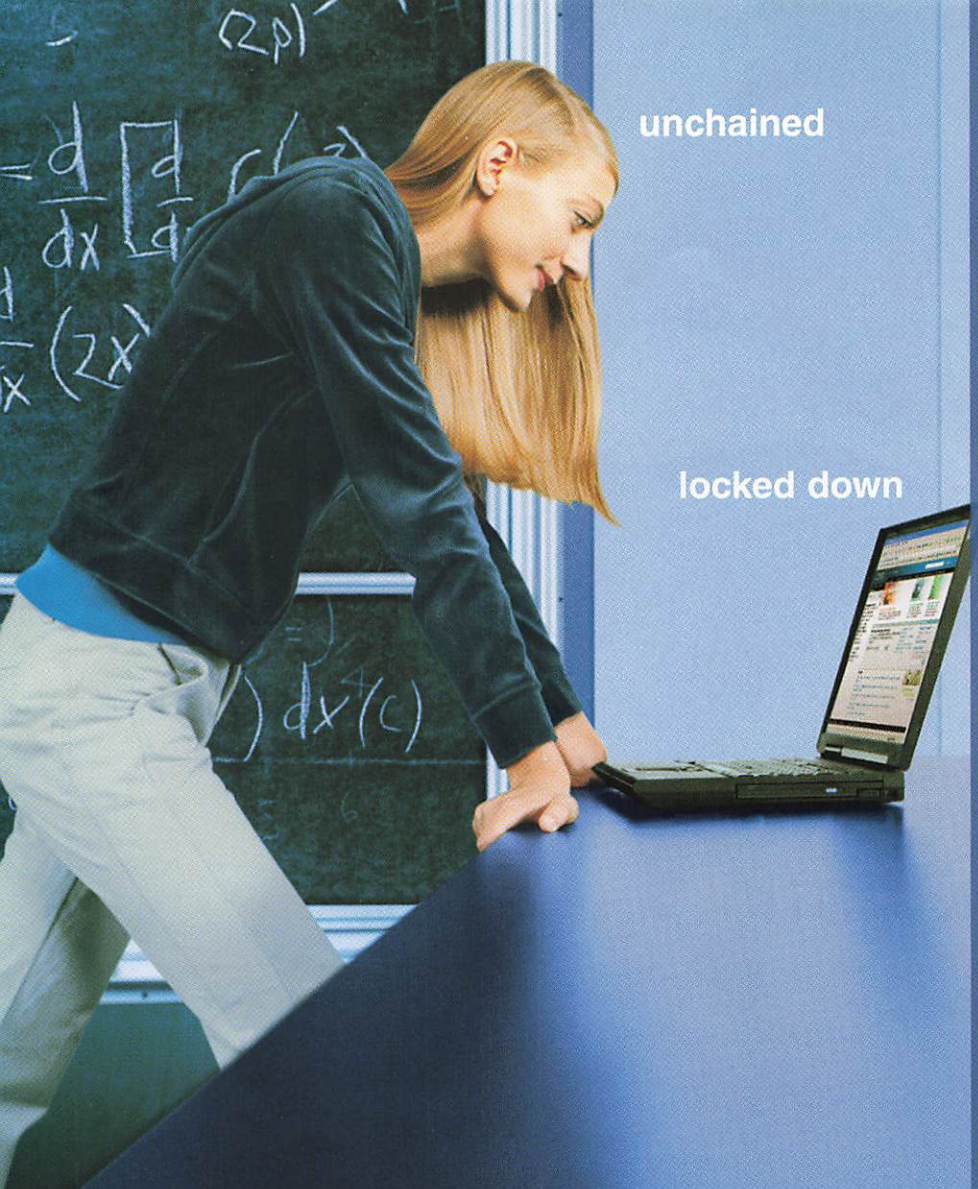
For users, leaving the nest has been a slow process with IT departments often pulling back on the apron strings. Personal computers took IT out of computer center basements and put it on the desktops of users. For a time, some IT departments responded with diskless PCs. Why should users have complex operating systems, applications, and their own files on their desktops? They'd be sure to get into trouble. Of course users *have* gotten into trouble just as children skin their knees and ding the family car and we hope not too much worse. Even if users sometimes put orange text on an orange background, fail to back up critical files, use a search engine that you know is not the best, or claim to know more about IT than you do, they need empathy, not reproach. IT can be difficult stuff.

Enterprise portals have the potential to free users to be much more on their own than ever before possible. Even more liberating, users can personalize their portal pages to reflect the way each one of them prefers to work. Portals, self-service applications, and the trend towards Web services that can be tailored by users will have users largely determining their own IT environment, a function previously the exclusive purview of IT departments. IT staff will be faced with supporting users, every one of whom might have a unique amalgamation of applications, fonts, skins, and profiles on their screens. This will be a challenging change to deal with, but there is no choice. Users are ready to try their IT wings and nothing will stop them for long.

Personalization may be a trend, but is it really essential for users or just an expensive, little-used convenience? Why not let the IT experts design Web application layouts, fonts,

*continued on page 41*

Illustrated by Peter Lacalamita

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